Drug & Cosmetic INDUSTRY

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October 1943

xpress—A Promise of Future Opportunities for this Industry

A "Best Seller"

IN THE DRUG AND COSMETIC FIELD

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Snowtop (U.S.P.) has attained its leading position because it is made from the finest Virginia calcium limestone under a patented process and safeguarded by strict laboratory control. Snowtop has been accepted since 1935 by the Council on Dental Therapeutics of the American Dental Association. Write for illustrated booklet, "Precipitated Chalk for American Industry."

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★ *Tall Oil Pitch* ★ *Sulphate Wood Turpentine* ★

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Analysis

• Chas. Pfizer & Co., Inc. has always regarded the careful and intelligent examination of all products as not only a necessary but also an important part of its manufacturing processes. We believe that the uniformity and high purity of our products cannot be assured without thorough examination and that it involves more than just the routine checking of materials against certain specifications.

The personnel of our Analytical Department is of the highest caliber and every effort has been made to make the most modern equipment available. Through thorough and careful analysis it has been possible for this department to make many suggestions which have resulted in improved products and improved methods of manufacture.

The research division of this department is constantly striving to improve or devise new techniques for the examination and analysis of our materials. New products, too, have always occasioned considerable analytical research, it often having been necessary to revise existing analytical methods to a great extent, or even to devise entirely new procedures. Needless to say, all of this would be impossible if analysis were considered to be merely a routine matter.

We feel that the reputation for dependability and high quality which our products enjoy is due in no small measure to our Analytical Department.

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Chas. Pfizer & Co., Inc.

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Drug & Cosmetic INDUSTRY

OCTOBER 1943

CONTENTS

KEEPING POSTED	381
GROUP MEDICINE	386
POLYHYDRIC ALCOHOL ESTERS IN COSMETICS	388
VETERINARY PRODUCTS	390
WEST AUSTRALIAN OILS	393
BRAZILIAN MENTHOL	394
MERCHANDISING NEWS AND PACKAGING NOTES	397
NEWS	405
INDUSTRY'S BOOKS	416
PRODUCTION FORUM	419
PERFUMERS' SHELF	432
COMPOUNDER'S CORNER	435
ADVANCING THERAPY	441
PURCHASING DEPARTMENT	445

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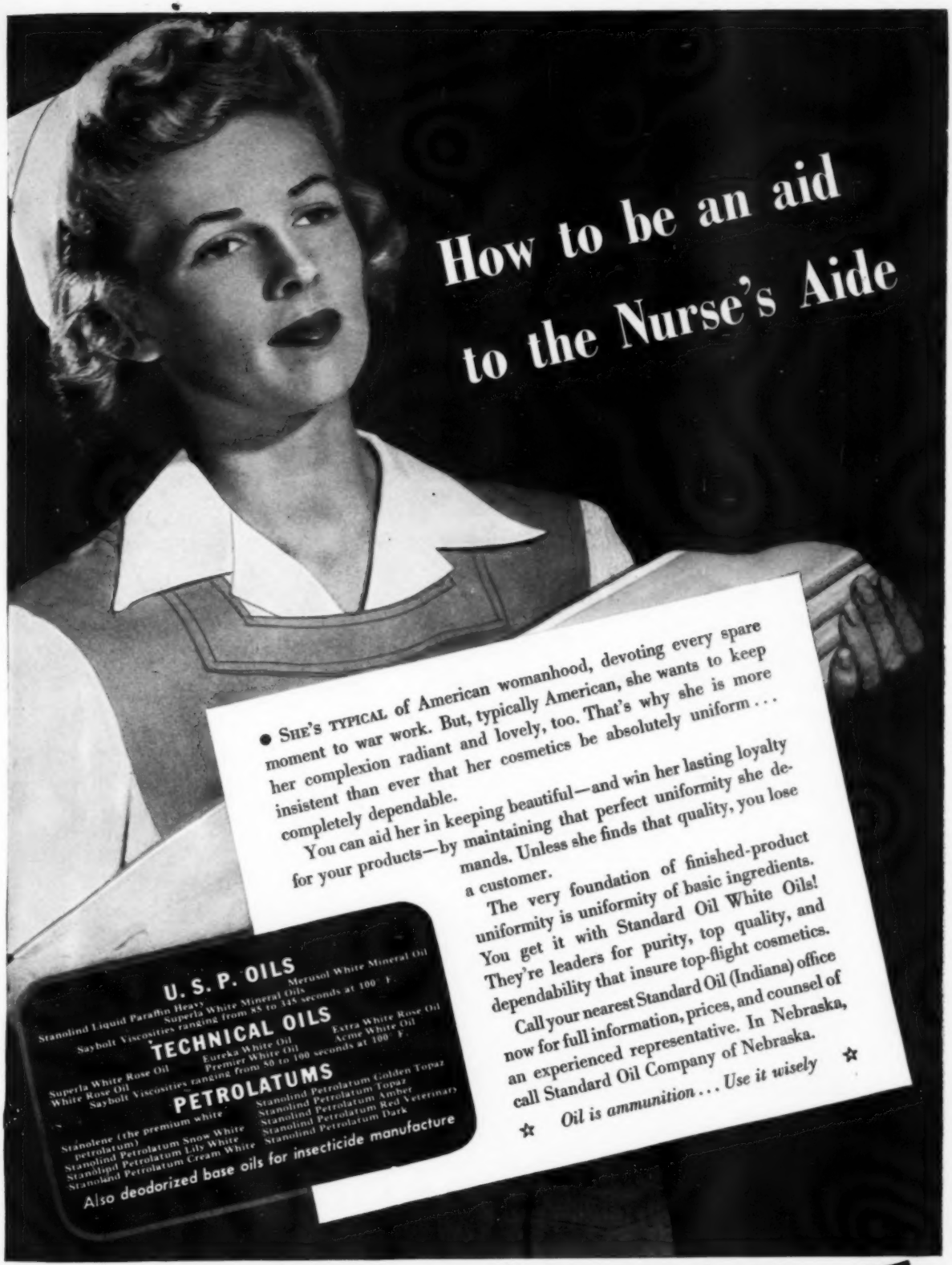
How to be an aid to the Nurse's Aide
● SHE'S TYPICAL of American womanhood, devoting every spare moment to war work. But, typically American, she wants to keep her complexion radiant and lovely, too. That's why she is more insistent than ever that her cosmetics be absolutely uniform . . . completely dependable.
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Superla White Rose Oil
White Rose Oil
Eureka White Oil
Premier White Oil
Extra White Rose Oil
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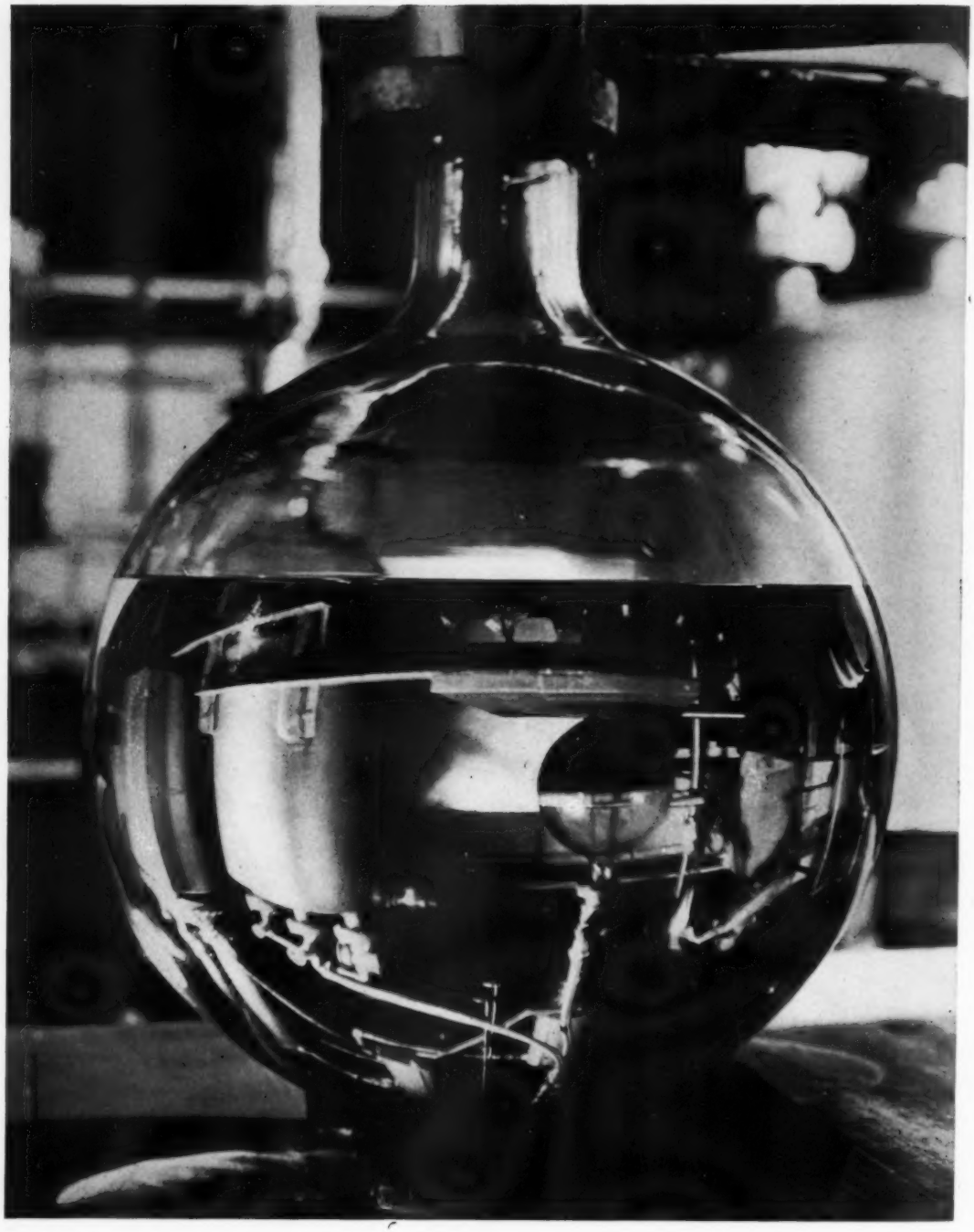

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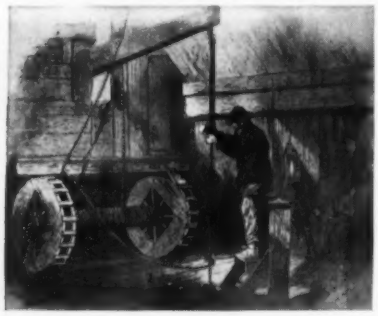
INSIDE NEWS

OCTOBER PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1943

Facts About U. S. Oil Reserves Indicate Inevitable Rise In The Price of Crude

Whatever happens in Congress this month, a *rise in the price of crude seems inevitable in the long run.*

Supporters of the recommended 25c to 35c per barrel price rise—including Petroleum Administrator Harold Ickes—point to expense of wartime wildcatting, approximately $47,000 per well, current costs of



Boring for oil in the Pennsylvania "Oil Creek" region in 1864 required little more than a rope, a drill and a gambling spirit.

400,000-well operations in the teeth of manpower and material shortages, and extra investment required to make stripper wells profitable.

War or no war, however, costs are bound to rise as the supply dwindles. Estimated known reserves of 20 billion barrels are said to be good for 16 years, but the key fact is this: *rate of flow slows down in older wells, becomes increasingly difficult to maintain.*

Advancing discovery and extractive techniques together with hydrogenation processes will change the picture, but are not expected to modify higher costs—at least, not from the point of view of safe, long-range planning.

Hopeful names in oil news today include the Calgary wildcats now under way . . . Athabascar tar sands, also Canadian, with an enormous potential for gasolene, kerosene and fuel oil, but no lubricants . . . and California, where 64% more wildcat wells were drilled in first 5 months of '43 than in the same period of last year.

Oil men point to coal and oil shale as a long but last-ditch defense against dependence on imports. *Oil industry as a whole looks to petroleum chemistry as most promising source of new business, post-war.*

Post-War Oil Notes. High octane gas, plastics, pharmaceuticals, glycerine . . . many new elastomers . . . are old stories now, but note a new war-secret synthetic, effective for its purpose when diluted to one part in 100,000,000 . . . a new "anti-oxidant" so powerful that a handful of crystals in a freshly painted room prevents drying of paint indefinitely . . . a watch oil retailing at $700 a gallon in a container holding less than 1/6th of an ounce. Background reading: BUSINESS WEEK, "Revolution in Oil," special report . . . "Fightin' Oil" by Harold Ickes, a friendly but shrewd analysis by the Petroleum Administrator for War . . . and statistics from American Petroleum Institute, 50 West 50th Street, New York City.

Modern "wildcat" drilling, using fast, powerful machinery, now costs $47,000 per speculative well, is required by the war program. (442)

Painting with Light

Walls of post-war homes may be decorated with paint designs that are invisible under ordinary lights, but glow under ultra-violet illumination. Different color schemes will be produced by flicks of a fluorescent light switch. (443)

Dustless Homes

Dustless homes are promised by new industrial dust catchers that impart a positive charge to particles of dust traveling in air over five tungsten wires, charged with 12,000 volts. Parallel steel plates charged with negative electricity snatch and hold these particles. Present uses are in the manufacture of blood plasma, powdered milk, where a building of pure air is essential. (444)

Dehydration Needs

In May of last year, some 20 plants were dehydrating vegetables at the rate of 15,000,000 pounds a year and by now 188 plants are scheduled to be operating at the rate of 200,000,000 pounds a year. But since double that amount is the goal, 200 additional plants are needed. Pre-war production of dried eggs was 3,000,000 pounds and the 1943 needs will be 480,000,000 pounds. (445)

N. E. Castor Beans

New England states are now growing castor beans and may soon compete successfully on a postwar basis with tropical regions from which our castor oil has previously come. Experiments with colchine are transforming low-yielding New England castor plants to a plant yielding more and larger pods. A southwestern university, working with colchine, has developed a new strain of soybean almost twice the size of the original. (446)

Coal Potentialities

Coal, one of Nature's most common raw materials, is potentially richer in rubbers than all the islands of the East; more bountiful in fibers than all the Japanese silkworms; wealthier in colors than the rainbow; and abounding in curative medicinals. (447)

Coating Compositions

Styryl phenols, reacted with a gas, form resins that are compatible with drying oils, and useful in coating compositions, according to a recent United States patent. (448)

Cork Substitute

A newly developed cork substitute made from soap, cement, glue and water is announced out of Capetown, South Africa. Since cork is on the restricted list, shipping difficulties have made technicians look for substitutes. The result of this South African alternate for cork is said to float in water, has heat insulating qualities of cork, and has a definite construction strength. (449)

NATIONAL CAN

PLANTS: NEW YORK - BOSTON - BALTIMORE - CHICAGO - HAMILTON, OHIO - FORT WAYNE, INDIANA

New Purity Measurement

A new testing instrument has been devised to measure purity of distilled water. Results are expressed in parts per million of sodium chloride. (450)

Fermentation Speed-Up

The initial fermentation rate for maltose and galactose with yeast may be speeded if the fermentation takes place in the presence of an atmosphere containing more oxygen than air, and preferably in a pure oxygen atmosphere. Oxygen may be bubbled through the solution to provide additional contact. (451)

Leather Substitute

England is experimenting to combine a cellulose product with cotton waste, to serve as leather substitute in footwear production. (452)

Titanium a Common Element

As late as 1910, there was no important commercial use of titanium. The public was unaware of its existence, although countless Atlantic seaside bathers noticed the black specks in white sea sand. Chemistry books contained little information about it. Titanium was then a rare curiosity, but is now recognized as the ninth commonest element in the earth's crust. There is three times as much titanium in the world as carbon. Long after mankind has ceased to use coal as fuel, titanium oxide will still probably be used as a white paint pigment. (453)

Roach Control Through Crayons

Sodium fluoride crayons have been found convenient, safe, effective and economical in control of roaches. If the marks made with the crayons are not disturbed, they function for an indefinite period of time and offer protection against reinfestation. The added advantage of lessened danger of food or contamination over which roaches may run after contact with the poison is a further advantage. (454)

Bleached Handles

Handles of picks, shovels, pitchforks and other tools have that blonde appearance because they are bleached with hydrogen peroxide. (455)

Safety Glass for Coating

The plastic interlayer in automobile safety glass is now the coating for Army raincoats, hospital sheeting and drinking water bags. (456)

Technical Topics

DISINFECTANTS—Products of higher efficiency, less disagreeable odor, wider range of usefulness, less danger to the user etc. are forecast for the post-war period. New specifications of the Army (No. 3018C) and U. S. Bureau of Ships (51D6) indicate the present trend, which in many cases represent a distinct advance from pre-war disinfectants and germicides, customarily based on cresol or cresylic acid. (457)

QUININE ALTERNATE—Atabrine is being offered by a third producer in endeavor to bring production high enough to dispel some public and government worry about this important substitute. While quinine is a malaria prophylactic as well as remedy, atabrine has only remedial qualities, it is understood. (458)

SOAP AT WAR—The corrosive action of sea air makes it necessary to give extraordinary protection to metal war equipment now going overseas in huge quantities. A trace of water, even left by a fingerprint, is sufficient to etch a bearing or cylinder wall so that the machine may fail at a vital moment. As a solution, the metal parts are thoroughly cleaned with organic solvents, then with soap, quickly dried and wrapped in cellophane, pliofilm or similar substances. Intruding traces of water are rapidly absorbed by moisture-absorbing chemicals, placed inside the wrappings, which must be airtight. (459)

MEAT PRESERVATION—Treating meat within four hours after slaughter with hypertonic saline solution for 24 hours, followed by packing in hermetically-sealed container with 20% table oil and heat-treating at 75°C. for three successive days, is a recently-patented preservation process. (460)

RED SPIDER CONTROL—Lima beans for canning or freezing are so affected in some areas. Control measures must begin when plants are small, sulphur sprays and dusts being found best controls. Recommended formulas are available. (461)

PROTEIN AND VITAMIN RESEARCH—A new sodium sulphite process has uncovered almost pure protein with great potentialities. (462)

MARINE CONCENTRATES—Frozen clam broth with its ice separated produces a highly desirable concentrate containing 12% total solids which may be raised to 21%, from an initial 5%, by second processing. Believed applicable to other marine products. (463)

POULTRY PALATABILITY—Quick freezing of New York dressed poultry which was held six months before eviscerating provided superior palatability to birds eviscerated 18 hours after dressing, then multiple-plate frozen and held in storage for the same length of time. Economy for eviscerators. (464)

APPLES AND CITRUS TO WAR—United States pectin, accounting for half the world's supply, has a wartime shortage since its use as a blood plasma substitute in treating shock. Other war uses also vital. (465)

SOYBEAN LECITHIN—Suggested as lubricating oils inhibitor in place of synthetics containing critical materials. (466)

VITAMIN E—Effectiveness of Vitamin A has been doubled by addition of Vitamin E, a West coast pharmaceutical manufacturer claims. Its effects are noted on Vitamin A and D tablets, it is understood. (467)

SKIN VARNISH—Sterility in the operative field is the claim for a new skin varnish, formula for which is available. (468)

SULPHONATION SIMPLIFIED—Sulphonation of aliphatic compounds, such as oils, fats, and fatty acids, is claimed to be simplified by the process described in a recent patent. Easy control of reaction temperature is a further claim. (469)

HEXITOL ANHYDRIDE FATTY ACID ESTERS have been introduced for use as emulsifiers, detergents, and wetting agents by an American chemical company. Since they are non-electrolytes, are neither sulphates or sulphonated products, and are virtually free of soap and inorganic salts, they are stated to make possible a whole range of new applications. Solubilities range from completely water soluble to completely oil soluble. (470)

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

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KEY QUESTIONS EVERY CAP BUYER SHOULD KNOW

NO. 2 WHAT

CAP CONSTRUCTION

WILL SUIT YOUR PACKAGE BEST

★ There are differences in details of cap construction, some obvious, some less apparent, which have an important bearing on the sealing function. Often they affect the selling function of the package as well. Among major elements are:

a. CONTINUOUS THREADS
b. LUGS
c. SEALING BEAD DESIGN
d. SHALLOW SKIRT OR DEEP SKIRT —re-use considerations
e. ADAPTABILITY TO CAPPING METHODS
f. EASE OF REMOVAL
g. CONSTRUCTION FOR SPECIAL PACKAGING—Vacuum-packing tumblers

★ Merelv cursory acquaintance with these structura. factors will not permit an intelligent decision on the proper construction of caps for your packages. Comparisons and tests should be made to cover the possibilities thoroughly.

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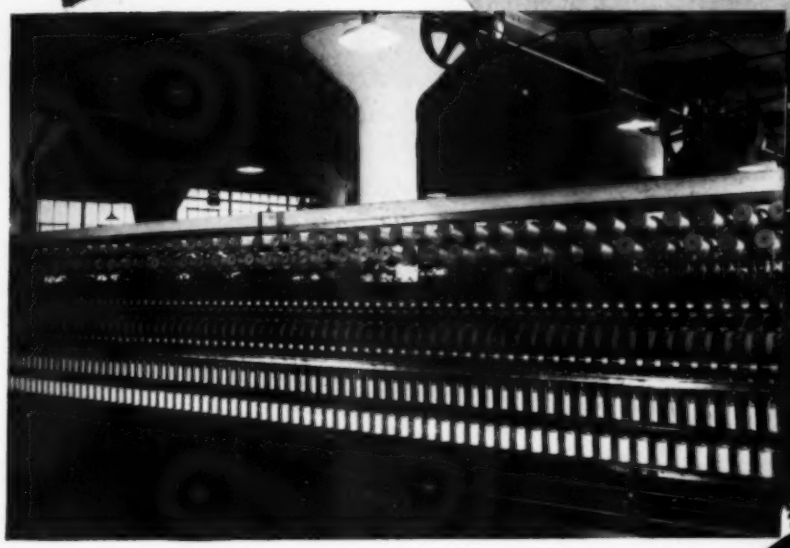

BUT NOT GOOD ENOUGH TODAY!

★

Hargrave's invention of the spinning jenny in 1764 transformed what had been a housewife's task into a great industry. Today's high speed textile machines make this early device seem like a childish plaything.

NEUTRAGLAS . . . offering the highest resistance to solvent action and chemical attack . . . was developed by Kimble because no glassware can be just "good enough" if better is obtainable.

Standardize NOW *on Kimble Ampuls, Serum Vials, Serum Bottles and Clinical Glass containers of* NEUTRAGLAS.

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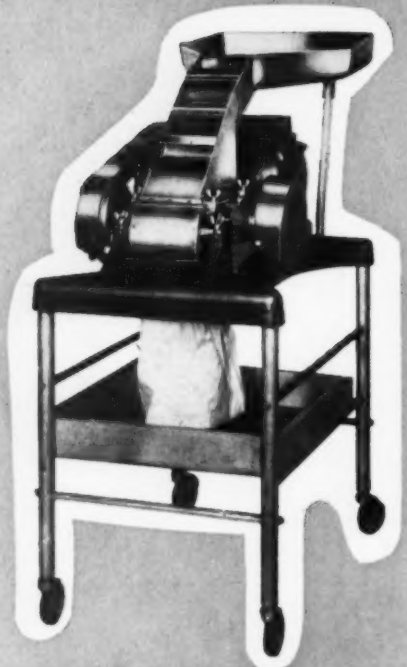
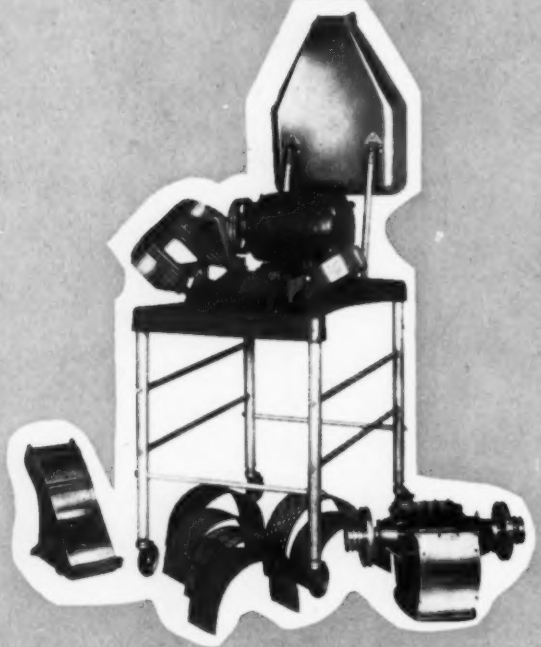
THE MODEL D
PATENTS PENDING
COMMINUTING MACHINE



STANDARD—Series 1600
Stainless—Non-Corrosive
MODEL D COMMINUTING MACHINE
Completely Assembled for Granulation



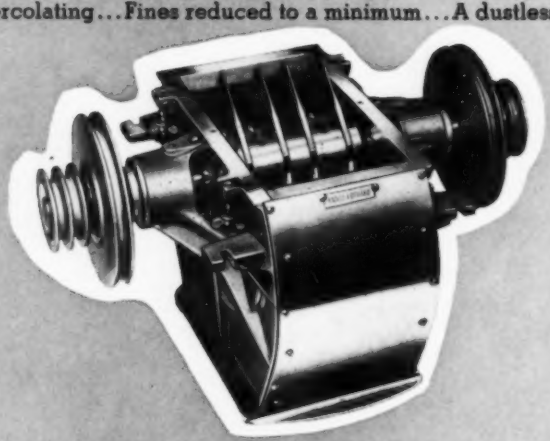
STANDARD—Series 1600
Stainless—Non-Corrosive
MODEL D COMMINUTING MACHINE
Dis-Assembled for Cleaning

★ **GRANULATION—BOTH WET AND DRY** . . . Granulates wet tablet and other mixtures at speeds greatly in excess of those obtained by previously used methods . . . More uniform granulation requiring much less processing after drying . . . Precision granulation of dry products with a minimum of fines and without operating dust.

★ **PULVERIZING—A DUSTLESS OPERATION**...Large production volume for power used . . Volume in excess of 1,000 pounds per hour with mesh size of 100 or finer on many products . . . Minimum amount of heat generated.

★ **DISPERSION OR WETTING** . . . Complete dispersion of colors, oils or other materials, throughout dry, finely divided powder, such as talc, antacid powders, colored tablets, etc. . . . Dispersion or complete wetting of fine materials incorporated in oil carrying bases . . . Greatly exceeds production of previously used methods.

★ **SIZING CRUDE DRUGS** . . . Ideally adapted for sizing barks, roots, etc., for percolating...Fines reduced to a minimum...A dustless operation.



EXCLUSIVE REVERSIBLE COMMINUTING CHAMBER WITH OUTBOARD BEARINGS

More than doubles the efficiency and flexibility of the Model D. Rotating blades are flat on one side for impact operations; sharp on reverse side for accurate granulating, pulverizing and sizing with minimum of fines.

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THE MODEL J
PATENTS PENDING
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★ **COLLOIDOL SUSPENSIONS** . . . The new, exclusive type PORCUPINE ROTOR is particularly effective in the preparation of colloidal suspensions of hydroxides, bismuth, lotions of various types, etc. Production greatly exceeds volume normally expected from power used.

★ **OINTMENTS** . . . A new and different method for the milling of ointments . . . Milling operation time greatly reduced . . . Excellent results with ophthalmic and similar type ointments.

★ **SLUG GRANULATION** . . . A new high in slug granulation . . . Can, if desired, be run in conjunction with slugging machine and granulate slugs as they are delivered.

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TYPE 17—Code W
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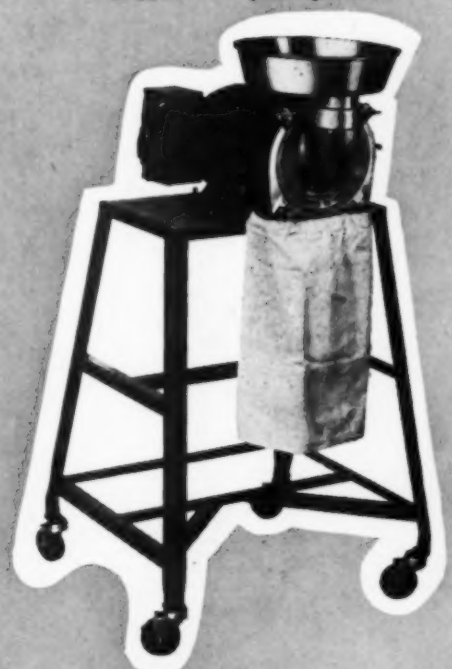
MODEL J HOMOLOID MACHINE
Equipped for Liquid Operation



TYPE 17—Code W
Stainless—Non-Corrosive
MODEL J HOMOLOID MACHINE
Equipped for Slug Granulation

PRODUCTION ★ PILOT ★ LABORATORY

In addition to the above described operations the Model J Homoloid Machine fills many production requirements without the loss of materials resulting from the use of heavy equipment. It can also be advantageously used to provide laboratory or pilot plant results which can be successfully applied in production.

Inquiries regarding the application of our equipment to your particular problems are invited. You will find this machine adaptable to many unusual uses.

FOR THE PROCESSING OF CRITICAL AND COMBUSTIBLE MATERIALS

★ *Minimum Maintenance* ★ *Low Power Requirements*

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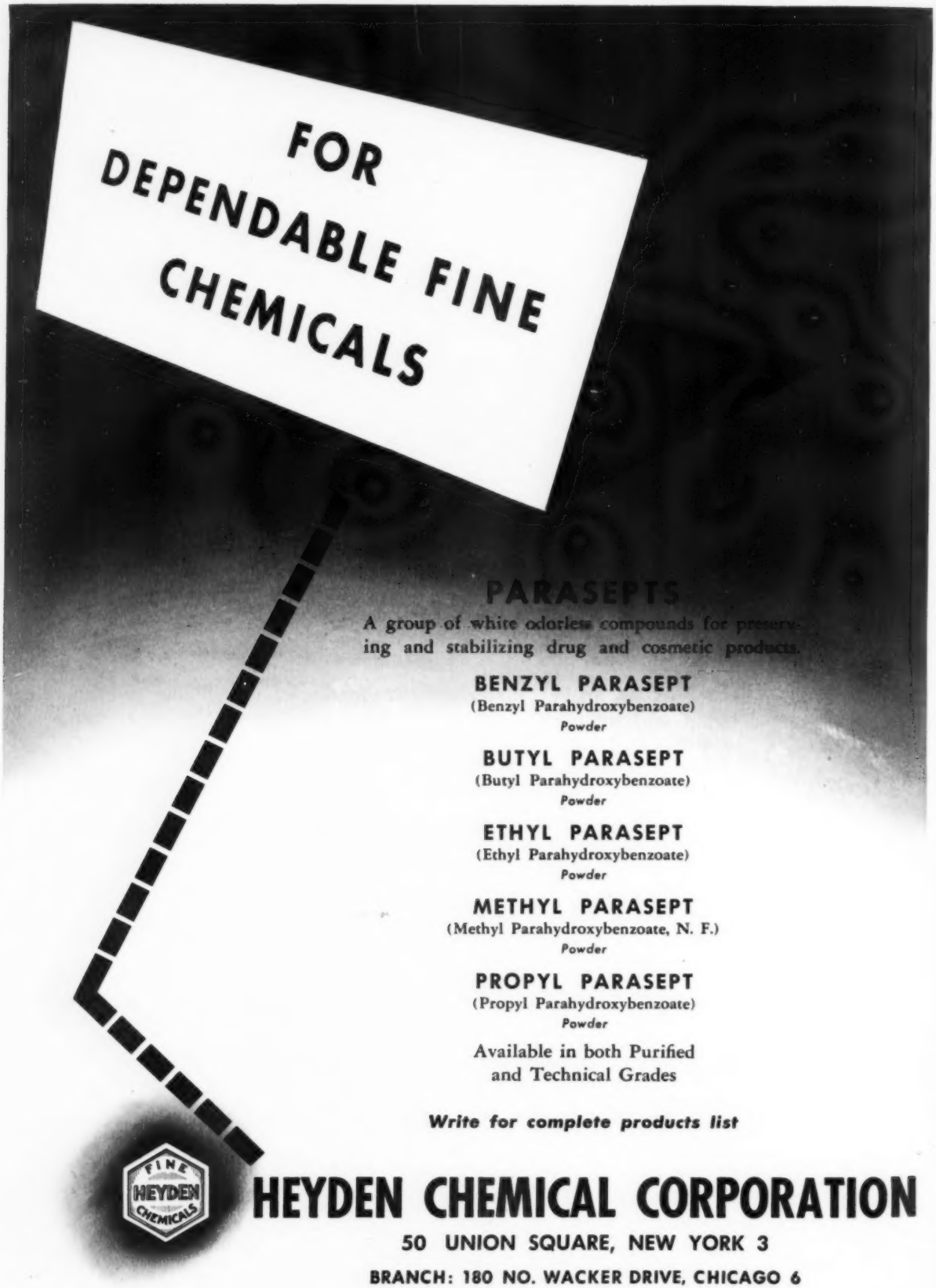

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(Ethyl Parahydroxybenzoate)
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WHITE BLEACHED
LIGHT REFINED YELLOW
REFINED YELLOW

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Genuine and Synthetic

CARNAUBA WAX
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SYNTHETIC JAPAN WAX
CERESINE - COSMETIC WAXES

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OF

WAXES

2-Ethylbutyl Compounds

that can be supplied now in limited commercial quantities

2-ETHYLBUTANOL

$(C_2H_5)_2CHCH_2OH$

. . . is a colorless high-boiling (148.9°C.) liquid that is soluble in most organic solvents but only 0.43 per cent soluble in water. It is used in hydraulic fluids, synthetic resin varnishes, and wetting and ore-flotation agents. The introduction of the Ethylbutyl group increases the oil solubility of the resulting derivatives. Ethylbutyl esters of dicarboxylic acids are plasticizers possessing low volatility and water solubility. In azeotropic distillation processes where the complete removal of water is desired, Ethylbutanol is extremely effective.

2-ETHYLBUTYL ACETATE

$CH_3COOCH_2CH(C_2H_5)_2$

. . . is a colorless liquid that boils at 162.4°C. Resembling amyl acetate in many of its properties and having the same toluene nitrocellulose dilution ratio (2.1), it is used as a moderately high-boiling solvent in lacquers and synthetic resin finishes. Its evaporation rate is somewhat slower than that of amyl acetate; therefore, lacquers made with Ethylbutyl Acetate form smooth high-gloss films with little tendency to blushing or orange peel. Ethylbutyl Acetate shows promise in nitrocellulose printing inks.

2-ETHYLBUTYL "CELLOSOLVE"

$(C_2H_5)_2CHCH_2OCH_2CH_2OH$

. . . a glycol-ether . . . is a colorless liquid that boils at 186°C. It resembles Butyl "Cellosolve" in many of its properties, but unlike it is almost insoluble in water (0.45 per cent at 20°C.) Used in synthetic resin lacquers, it should produce excellent gloss, lack of orange peel, and toughness of film. Additional applications for this compound include use as a constituent of hydraulic fluids, as a mutual solvent, and as a plasticizer intermediate.

The booklet "Chemicals Available in Research Quantities" describes more than 30 new chemicals now available for research study. Write for a copy.

For information concerning the use of these chemicals, address:

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Unit of Union Carbide and Carbon Corporation

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ZINC STEARATE

U.S.P. MERCK

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Quotations and samples will be furnished to manufacturers on request.

★ High quality ZINC STEARATE U.S.P. MERCK is still available for incorporation into first grade powders.

Manufactured from best quality *Triple-Pressed Stearic Acid,* ZINC STEARATE U.S.P. MERCK is an exceptionally smooth, free-flowing, white powder, with excellent adhering properties and fine "slip." It also is free from gritty or harsh particles, and from foreign or rancid odor. It contains not more than 20 parts LEAD per million, and not more than 2 parts ARSENIC per million. It complies with the specifications of *The U. S. Pharmacopoeia.* Added to other ingredients in correct proportions, Zinc Stearate U.S.P. Merck will give your powder effective covering properties, perfect adherence, fineness of texture, and the bulkiness desired.

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Select from our Osmodors

the core of your compound

and build your perfume around it

Our Osmodors are strong lasting bases designed to relieve the perfume chemist of the arduous duty of developing from the ground up the perfume he wants, yet their use leaves him full scope to elaborate his own creation.

They are soundly constructed of a variety of aromatic bodies and brilliantly worked out to provide the best possible base for any type of compound.

Among them are, for instance:

Osmodor Ambrone
Effective, enduring fixative of fine amber note, suitable for sultry modern perfumes.

Osmodor Bigarone
Penetrating, lasting orange blossom base. Also recommended for modern eaux de cologne.

Osmodor Bulgaryl
Of aldehyde-like character. For rose compositions and for flowery effects.

Osmodor Cabardon
An effective and lasting musk base. Use a 3% solution as substitution for natural tincture of musk.

Osmodor Carnatine
A carnation base of unusually delicate yet penetrating character. Very valuable in all floral bouquets.

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Incorporates the delicate fragrance of forest herbs and field flowers. Most effective in dilution. Useful in perfumes of all types.

Osmodor Jasmonta
A basic jasmine incorporating our isojasmone. Remarkable for its perfect floral character.

Osmodor Juchten
Suggests Russian leather. Suitable in sultry modern compositions and in eaux de cologne.

Osmodor Nerolis
A fresh neroli note for enlivening and rounding off. Also recommended for eaux de cologne.

Osmodor Rosal
A very efficacious rose base of great strength imparting the dewy character of the freshly picked blossoms.

Schimmel & Co., Inc.
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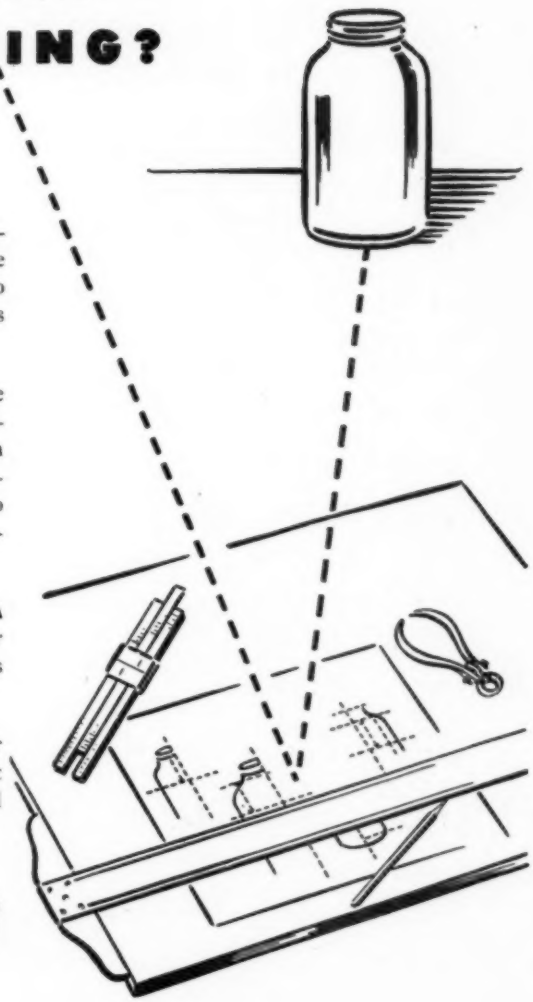
DID YOU EVER SEE AN IDEA WORKING?



You would if you were to visit our plant. Throughout our entire organization you would see one dominant idea hard at work . . . the idea that no matter how trivial an operation may seem, it is nevertheless mighty important!

Only a steadfast adherence to the idea that there are no unimportant details—no substitutes for accuracy—no better way to approach perfection than to be precise—can you manufacture glass containers of such distinctive quality that they serve to focus full attention upon *the products* they enclose . . . at all times and under all conditions.

So, the answer to, **"DID YOU EVER SEE AN IDEA WORKING?"** is: "Of course!" That's all you ever do see, really, because it's the *idea* that generates the action.

For a detailed description of the way in which our working ideas can benefit you in the development of glass containers for drugs, cosmetics, household or food products, we invite your inquiries.

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"Getting back to normal" is a wish on every tongue, yet daily there is further evidence that, after the war, "normal" will be a radical departure from our pre-war acceptance of things; methods and ideas learned in war-time production will be tomorrow's peace-time promotions.

People are eagerly waiting for new streamlined aids to better living . . . new in appearance, new in functions. Cosmetics, too, will be newer, better!

Evans Chemetics, with its war-production experience is in a position to assist you with your post-war manufacturing, packaging, and merchandising problems.

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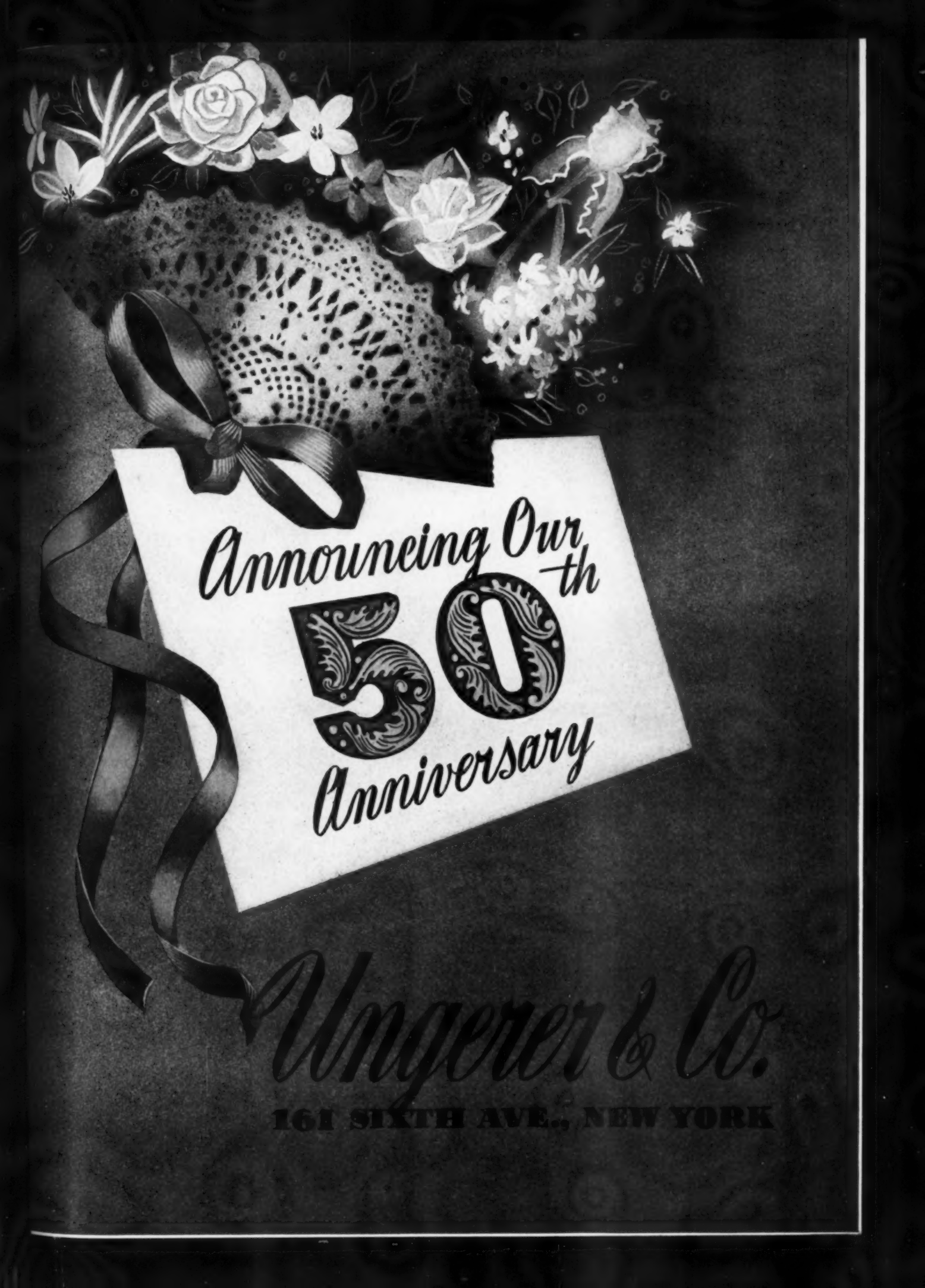
250 East 43rd Street, New York
Telephone: Murray Hill 3-0077

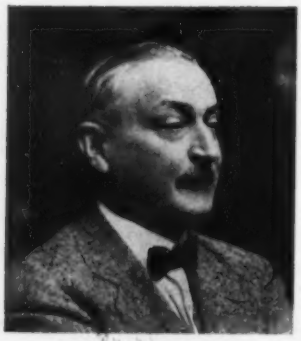
EVANS CHEMICALS, LTD.
Boreham Wood, Herts, England
for your English post-war production

★ *Manufacturing Chemists with Unique Research Facilities* ★


Announcing Our
50th
Anniversary
Unger & Co.
161 SIXTH AVE., NEW YORK

50th Anniversary Message fr

William P. Ungerer
Founder of the business,
President 1901 to 1907



William G. Ungerer
President 1907 to 1930

Frederick H. Ungerer
President and Treasurer

May we pause in this 50th year to express to our many friends, customers and contemporaries our sincere appreciation for their cooperation, their confidence and friendly helpfulness which has made the present organization possible. In this spirit we pledge our best efforts and utmost resources in the continuance of ever higher standards and progressive service to the industry.

(1893-1943)

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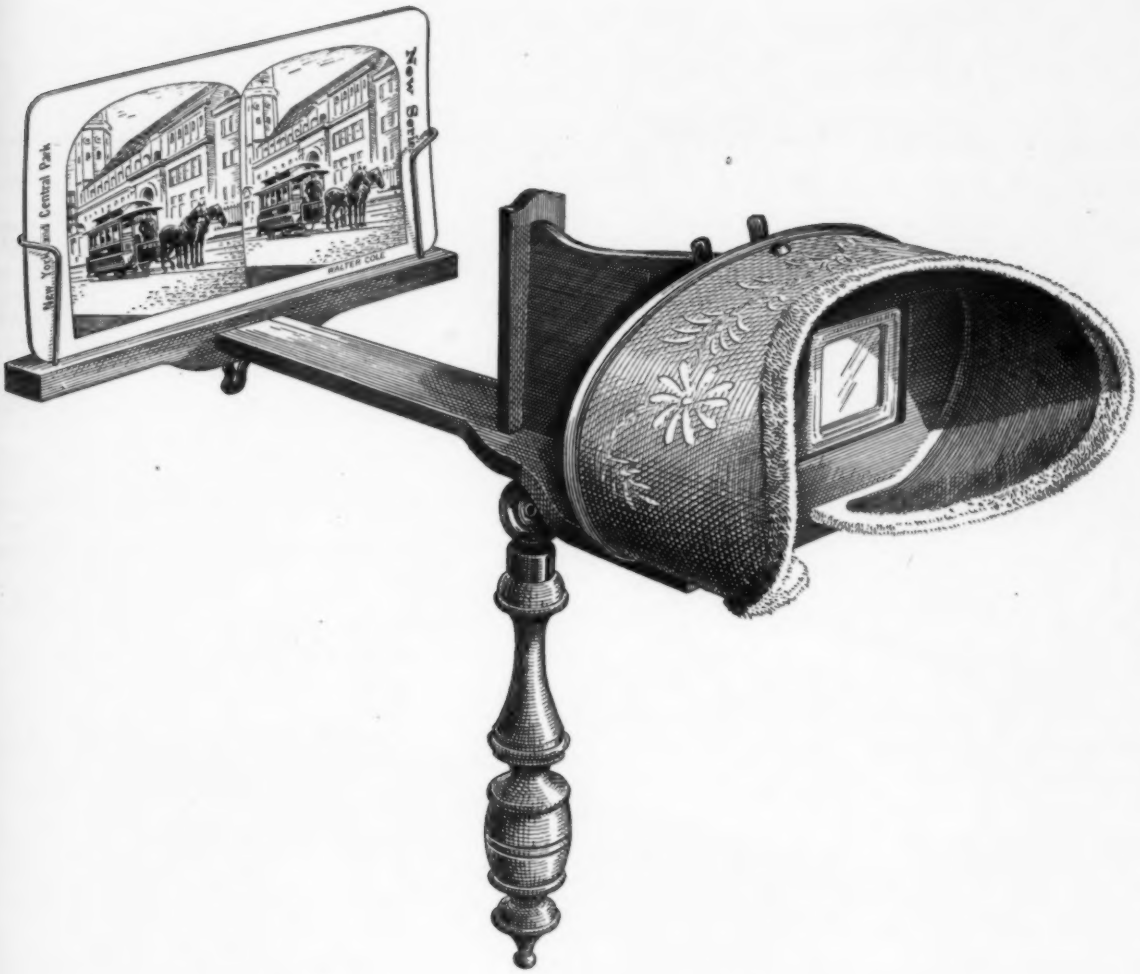

THIS? A WAR WEAPON?

Remember the old-fashioned stereoscope — grandfather's substitute for the movies? Remember how it made pictures stand out in three-dimensional relief?

Well, the same idea is being used in stereoscopic airplane cameras today. Because stereoscopic pictures show up hidden depressions and hills that are not always apparent in the usual aerial photograph.

Grinding stereoscopic lenses, in fact, *all* highly-corrected lenses, is a delicate precision operation. In order to insure accurate measurements and to avoid uncontrolled expansion, lenses are tested in special *air conditioned* rooms . . . maintaining a constant temperature at all times.

Air conditioning is used similarly in making the famous Norden bombsight, in precision machining, and in many other industrial processes.

To do exacting war jobs like these, General Electric engineers have developed dependable air conditioning and industrial refrigeration equipment—equipment that had to be more efficient, more compact, and more flexible.

In the post-war period, the public will be enabled to buy not only new—but vastly improved air conditioning—from General Electric.

☆ BUY WAR BONDS ☆

General Electric Co., Air Conditioning and Commercial Refrigeration Divisions, Section 4310, Bloomfield, New Jersey.

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Hear the General Electric Radio Programs: "THE HOUR OF CHARM," Sunday 10 P. M. EWT, NBC . . . "THE WORLD TODAY" News Every Weekday 6:45 P. M., EWT, CBS

ALBERT VERLEY & COMPANY OFFERS 2 IMPORTANT MATERIALS TO HELP YOU BEAT THE JASMIN SHORTAGE

As a necessary measure of self-protection, you owe it to yourself and your house to explore the possibilities of these modern creations — so far in advance of previous efforts in synthesis that they promise to make America permanently independent of foreign supplies of the natural material. *Write today for working samples and quotations.*

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The synthesis of this important Jasmin ingredient by Albert Verley & Company enables you to impart to your compositions a true floral effect that suggests at once the note of Absolute Jasmin. Only very small quantities are required.

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. . . is a variation of the popular Jasmin Blossom "V", which has successfully replaced part or all of the Absolute Jasmin originally incorporated in many of the most significant formulas. Like Jasmin Blossom "V", it is moderate in price — and a fully satisfactory substitute for the natural product which now is so scarce and expensive.

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Official U. S. Coast Guard Photo

Planning does it!

Behind the magnificent job of enemy submarine control by the men of our Navy, Coast Guard, Army Air Force and CAP, is efficient planning. And as a result, the submarine menace is diminishing.

Whether it's dropping eggs on submarines or refining White Mineral Oil and Petrolatum, it takes intelligent planning to do the job right.

Thirty-nine years of this kind of planning . . . plus unmatched production efficiency . . . enables SONNEBORN to meet rigid requirements of the drug and cosmetic industries for White Mineral Oils and Petrolatums of unexcelled Quality, Uniformity and Dependability.

Along with every refinery and plant in the American petroleum industry, we are making government co-operation for victory our first consideration. However, we can still supply quantities of SONNEBORN U.S.P. and Technical White Mineral Oils and U.S.P. Petrolatums. (See partial list below.) And we are prepared to assist you in adapting these materials to the solution of your wartime problems.

Call on us, too, as others are doing, to help you in planning for peacetime production.

Back the Attack—Buy War Bonds!

WHITE MINERAL OILS

KAYDOL U. S. P. Heavy
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PETROLATUMS U. S. P.

TYPE I: *Medium Consistency—White Protopet—Yellow Protopet and other colors*

TYPE II: *Soft Consistency — White Fonoline — Yellow Fonoline*

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SPECIALTIES

FYBRENE WAX—Amorphous (micro-crystalline) wax for pharmaceutical and cosmetic formulation.

SONO-JELL— Complete series for liquefying cleansing creams, pomades, ointments, etc.

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"Vince" Zito is getting ready for dirty work on the beaches . . . .

Vincent J. Zito used to be one of our shipping clerks before he joined the Navy and was assigned to the Amphibious Training Command of the Atlantic Fleet.

He's getting ready for a different kind of "shipping" work now; and when landing operations start on some far-off beach, Vince will be one of the lads delivering the goods.

After a job well done, we hope he'll be coming back here to his old post along with all the other Swindell boys now in the service. Then we'll be able to again give you the kind of Swindell service to which you are accustomed.

In the meantime, we're doing our level best with the men and materials at hand to keep you happy.

When you think of bottles think of

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Fighting Chemicals
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Manufacturers and Specialists in Prescription Chemicals including:
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BUY
UNITED STATES WAR BONDS STAMPS
This NYQ label has behind it 68 years of experience

"Even by small things are great ends helped"

FOR EXAMPLE, THESE LITTLE BLOW-OUT PLUGS OF GARDNER-RICHARDSON PAPERBOARD HELP AIRPLANE MACHINE GUNS FIRE DEADLIER LOADS

ON EVERY war front, you'll find Gardner-Richardson paperboard performing many important *big* jobs—protecting ammunition, food, medical, and ordnance supplies. You'll find it doing many important *little* jobs, too—such as protecting airplane machine guns from rust and dust.

Because ingenious little blow-out plugs, made of Gardner-Richardson paperboard, are inserted into the muzzle, the bore is kept clean as a whistle—the gun is in prime condition to fire a load of hot metal when a Messerschmitt or Zero gets into range.

Gardner-Richardson paperboard products are also doing a job on the home front—saving vital war materials, helping maintain the flow of essential civilian goods. In the Gardner-Richardson plants—in our research laboratories, development and designing departments—there is but one purpose so long as the war lasts: *to produce paperboard, cartons, and containers that will help speed the day of victory.*

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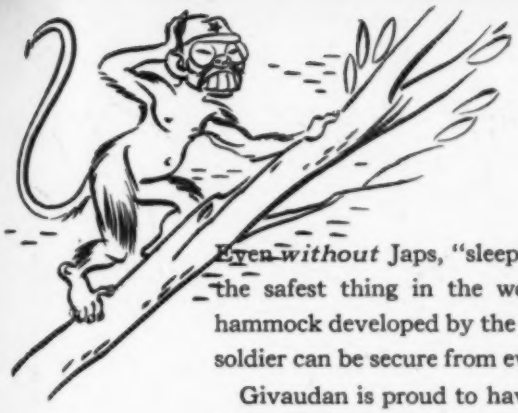

Even *without* Japs, "sleeping out" in the jungle would not be the safest thing in the world. But in this ingenious jungle hammock developed by the U. S. Army Quartermaster Corps, a soldier can be secure from everything save actual enemy attack.

Givaudan is proud to have contributed Compound G-4*, its highly efficient mildew-proofing agent, to the protection of mosquito netting, balloon cloth, and other "GI" fabrics such as are used in jungle hammocks against deterioration due to moisture, particularly under humid tropical conditions.

Developed exclusively by Givaudan technicians, G-4 has exceptional germicidal and antiseptic properties as well. Being both non-toxic and non-irritating, it is one of the few materials accepted by the Quartermaster Corps for intimate contact with the human skin.

Because of its many essential wartime uses, G-4 is available only on a high priority for the duration. But if, with a "weather-eye" to postwar, you would like further information concerning this unique mildew-proofing compound, we shall be glad to supply specific data upon request.

**2,2'—dihydroxy 5,5'—dichlorodiphenyl methane*

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Our plant facilities are available for any further contribution we may make to production of materials for the war effort.

The
CHAMELEON
"Tells it to the MARINES"

The Chameleon gave man a vitally important lesson: Hide from enemies by matching your color with your background. So warfare today calls for the utmost in the art of camouflage.

This is why leaders in the industry who supply camouflage materiel for our fighting men turn to H. Kohnstamm & Co. for COLORS. They know that our 93 years of experience assures the highest standards in quality and friendly cooperative service.

Kohnstamm Colors precisely conform to the most exacting Engineer Board Specifications. They are non-toxic, physiologically tested, and manufactured under the same exacting supervision as our complete line of Certified Colors.

Therefore, whatever your color requirements or production problems may be, call on Kohnstamm.

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WHAT BETTER TIME THAN NOW!

Selling is no problem. With rationed buying and restricted production, a new package can be quickly introduced—firmly established *before* competitive selling conditions return. And without losing volume while doing so.

LOOK AHEAD to the post-war market. This much we can see now: Selling will be no cinch! You'll need every sales weapon at your command. Including better, more productive packages that dealers instinctively want to display.

WHY NOT GET SET NOW with a vigorous new package? A package that's easy on the consumer eye—easy to use—economical to buy.

CONSULT RITCHIE package engineers and designers. They are glad to help you prepare for tomorrow's needs—today. No cost or obligation.

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Delivering the Goods!

These are mighty busy times at the Allied Plant.

There are orders for the Armed Forces to be filled, also the orders of our customers who by their continued patronage and loyalty have earned a consideration we are privileged to honor. And these Civilian orders are mighty important orders, too, for they are playing their share in the vital role of sustaining a high morale on the home front.

Therefore, the servicing of *new* accounts in our present production schedule is not always physically possible. For this reason we urge that prospective clients talk over their requirements with us first to avoid possible disappointment and misunderstanding. Such discussion, to be sure, may not be a guarantee that their orders will be filled, but it is a guarantee of Allied fairness and willingness to consider your problem, and whenever possible, help you solve it.

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A BOTTLE WILL STOP LIGHT?

Yes THERE'S A DIFFERENCE IN GLASS

TO most people, one of the most noticeable characteristics of glass is the fact that it is transparent—that light passes through it readily.

But the truth is that today's commercial glassware stops many of the rays of ordinary sunlight. You know, perhaps, that the rays that cause sunburn won't pass through ordinary window glass. Nor will they pass through a clear glass container.

However, ordinary colorless glass will not stop all ultra-violet rays. So, to protect certain products from the harmful effects of these invisible rays, some glass containers are colored. Amber glass, for example, is an excellent barrier against the deteriorating effects of ultra-violet light, and you know that almost all pharmaceuticals, as well as many foods and beverages, are packed in amber glass by their manufacturers. They use amber because it is *light-protective*.

The average users of glass packages need not ordinarily worry about what light rays pass through their containers and what do not. But it is important to you to know that some glass stops more light than other glass does—because it proves the point that glass packages that *look* alike may not always *be* alike.

And it's the little things—the little differences in composition, brilliance, clarity, thermal shock resistance and so on that, when added together, make the difference between ordinary glass and top-quality glass.

Armstrong's facilities for producing top-quality glassware, flint or amber, are described in the new booklet, "Men and Glass." For your free copy write Armstrong Cork Company, Glass and Closure Division, 3810 Prince St., Lancaster, Pa.

ARMSTRONG'S GLASS

and **ARMSTRONG'S CLOSURES**

Hydroxycitronellal substitute

ANOTHER DU PONT AID IN WARTIME

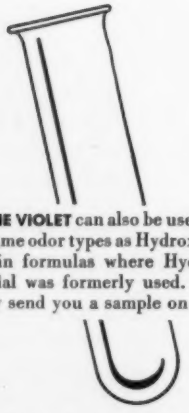
SOAP AND PERFUME FORMULAS

Today's shortages serve as a challenge to Du Pont Aromatics Chemists. When imports of Citronella Java were cut off, Du Pont promptly developed a replacement for Hydroxycitronellal, which had previously been made from Citronella Java.

Now this Hydroxycitronellal Substitute can be used in formulas where Hydroxycitronellal is indicated to achieve the same effect. And it has the advantage of complete uniformity, purity and chemical consistency, because every step in its production is controlled by the skilled technicians of the Du Pont laboratory.

This laboratory works constantly to solve the changing problems of wartime soap and perfume manufacture. Now, as always, you can count on Du Pont to help you maintain the high standards of your products.

Synthetic aromatics are a product of chemistry, and Du Pont Synthetic Aromatics reflect the technical skill of all the Du Pont laboratories. E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Department, Aromatics Section, 40 Worth Street, New York 13, N. Y.



ALPINE VIOLET can also be used to give the same odor types as Hydroxycitronellal in formulas where Hydroxycitronellal was formerly used. We will gladly send you a sample on request.

DU PONT *Aromatics*

BACK THE ATTACK—BUY WAR BONDS

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Continuously at your service are 23 Anchor Hocking branch offices, located in principal U. S. and Canadian cities. In each of them you'll find a friendly group of widely experienced sales and service engineers, with the latest facts on today's packaging conditions. Does your problem concern containers? Closures, liners, gaskets? Sealing machines, cartons, packaging line difficulties? Plant conversion to handle glass—or a practical interpretation of the latest W.P.B. order? Your nearest Anchor Hocking sales engineer is fully qualified to help you. And for special technical assistance, he will place at your disposal Anchor Hocking's extensive Experimental Laboratories, General Packaging Research Division and Engineering and Package Design Departments.

L. R. (JOE) PITTO, one of Anchor Hocking's ablest and most popular men, has been a member of the Anchor Hocking family for 14 years.

ANCHOR HOCKING

GLASS & CAPS

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Aladdin's Lamp

1943 A.D.

Almost as fast as it took Tojo to say, "So sorry,—Mr. Producer, no more Oil Cassia from China," the M M & R laboratories flung the answer back in Tojo's teeth by announcing IMITATION OIL CASSIA M M & R.

True, this was a product of the laboratory, *the Aladdin's Lamp of modern times*, but it was no story-book miracle.

The fortunate and timely introduction of this truly remarkable replacement was the result of months of difficult work, countless experiments, long hours of meticulous testing, and positive proving in actual usage by an interested group of diversified manufacturers.

Now M M & R is proud to offer Imitation Oil Cassia M M & R. Its Cassia characteristics are extraordinary and its flavoring strength comparable to the natural product so that it can be used pound for pound in your formulae. Important, too, is that it is priced at less than one-quarter recent quotations of Oil Cassia Redistilled U S P.

imitation
OIL CASSIA MM&R

To test Imitation Oil Cassia M M & R on a commercial basis, 10 lbs. is offered at the 100 lb. price. Free testing sample available.

MAGNUS, MABEE & REYNARD, INC.

SINCE 1895...ONE OF THE WORLD'S GREATEST SUPPLIERS OF ESSENTIAL OILS

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San Francisco: Braun, Knecht, Heimann Co. • Los Angeles: Braun Corp. • Seattle, Portland, Spokane: Van Waters & Rogers, Inc. • Canada: Richardson Agencies, Ltd., Toronto.

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Liked by mothers for its dependable, cough-relieving properties . . . and by babies and small children for its pleasant taste . . . Norwich Baby Cough Syrup has long been a favorite remedy in thousands of American families.

This is just one of several Norwich pharmaceuticals sealed with Crown Screw Caps . . . which, because of the patented Deep Hook Thread, give 50% to 100% more sealing pressure with the same amount of force.

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World's Largest Makers of Closures for Glass Containers

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CROWN'S WARTIME POLICY: *To supply closures, containers and services for packaging foods, beverages, chemicals, etc., needed by civilians and the armed forces. To build an ever-increasing volume of vitally needed weapons of war for our fighting men.*

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In compliance with the Pure Food, Drug and Cosmetic Act and WPB Limitation Orders.
Products Liability carried.

We also manufacture powder puffs, vanity puffs, loose sifter powder devices, etc.

OXZYN COMPANY

MANUFACTURING
Cosmetics of Quality
SINCE 1877

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ONE PLEASANT AVENUE
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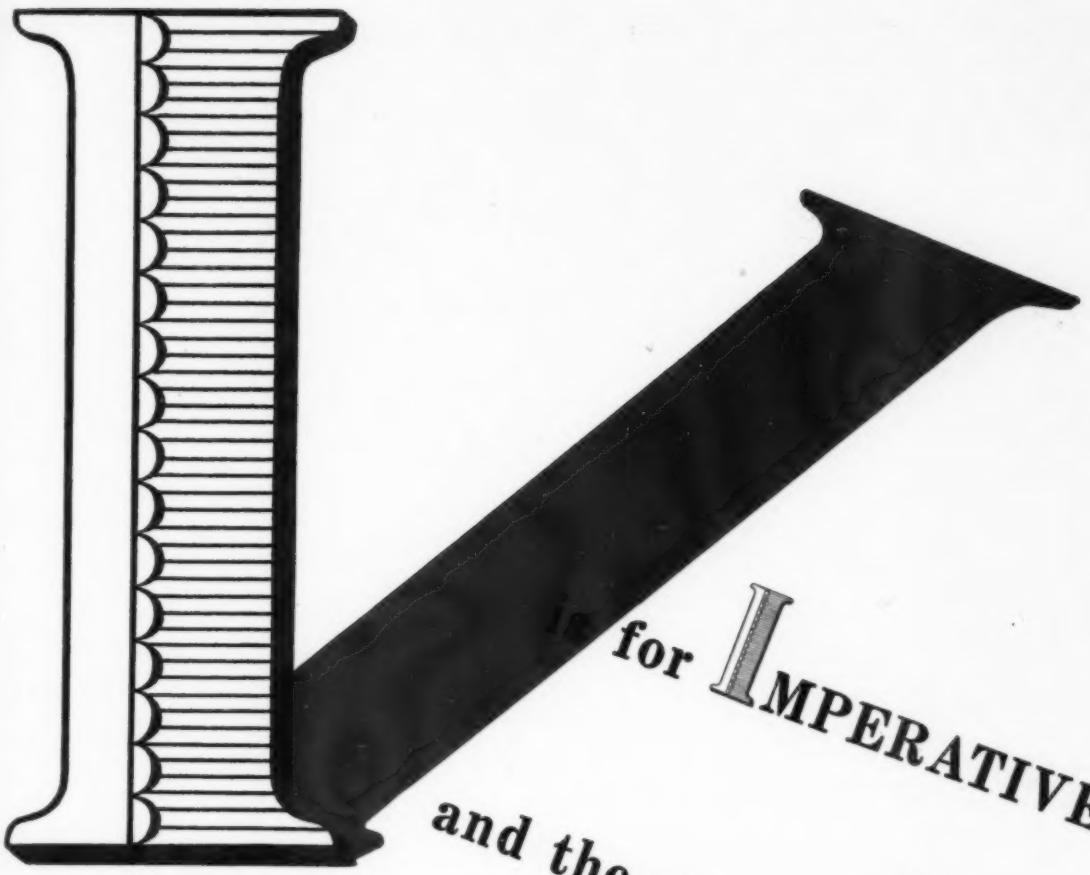

Ideas have always been the secret weapons of American progress...the ingenuity that has initiated new ways and means for getting things done better and faster.

In these times of emergency...of imperative needs for certain chemical materials, ideas born of chemical research have repeatedly come through. New materials and new uses for others now are making it possible to sustain an ever-mounting flow of supplies to war industries. Likewise, it is enabling many manufacturers of civilian goods to circumvent critical material shortages.

If you are confronted with a problem arising out of inability to obtain chemical materials for your high priority business, or if you are faced with suspended production due to the non-priority nature of your manufacture, call upon Cyanamid. Our research chemists and engineers will be glad to apply their facilities to the solution of your problem. There is no obligation.

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A Unit of American Cyanamid Company · *30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.*

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Developing with the growth and the progress of the industry the past few decades, the A. C. Drury organization has been a prime factor in the distribution of raw materials and essential oils for the cosmetic, perfume and soap trades.

It is natural that we know what manufacturers in our industrial scope need and can use.

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Gums and Vanillas
For 85 years
THURSTON & BRAIDICH
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Sierra Talcs approximate the ideal—chemically and physically—and excel in uniformity of milling and color.

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LACO Castile Soap
Made with 100% Pure Imported Olive Oil
LACO PRODUCTS, INC.
BOSTON • NEW YORK
Manufacturers and Importers
Castile Soap U.S.P. "Laco"
Powdered—"Purls"—Bars

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Likewise, over the years we have enjoyed the best and most reliable connections both in America and abroad and have acquired an intricate knowledge of where to secure these materials and specialties, which is valuable to our customers, particularly in the present uncertain market.

That we have been successful in our operations is due largely to the fact that many of our customers regard us as a part of their organization. They give us their confidence—tell us their problems and just what item or items they lack, etc.

In fact, some regard us as their special purchasing agent. We welcome that relationship. It puts us to a test and results have been many times mutually helpful and profitable. Those we serve know this. Perhaps we may be able to serve you.

Precipitated Chalk
Sturge's "Sturgeon Brand" leads the world
H. J. BAKER AND BRO.
NEW YORK
Sturge's English precipitated chalk
U.S.P. Extra light—Dense.

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Established 1852
HALEDON, PATERSON, N. J.
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White Bleached Bees-Wax
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Stearic Acid
Superiority founded on performance
THE HARKNESS & COWING CO.
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Manufacturers of Stearic Acid
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Medicinal White Oils
Qualities Unsurpassed
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Petroleum Products
White Mineral Oils U.S.P. for pharmaceutical and cosmetic uses.
All gravities, all viscosities.

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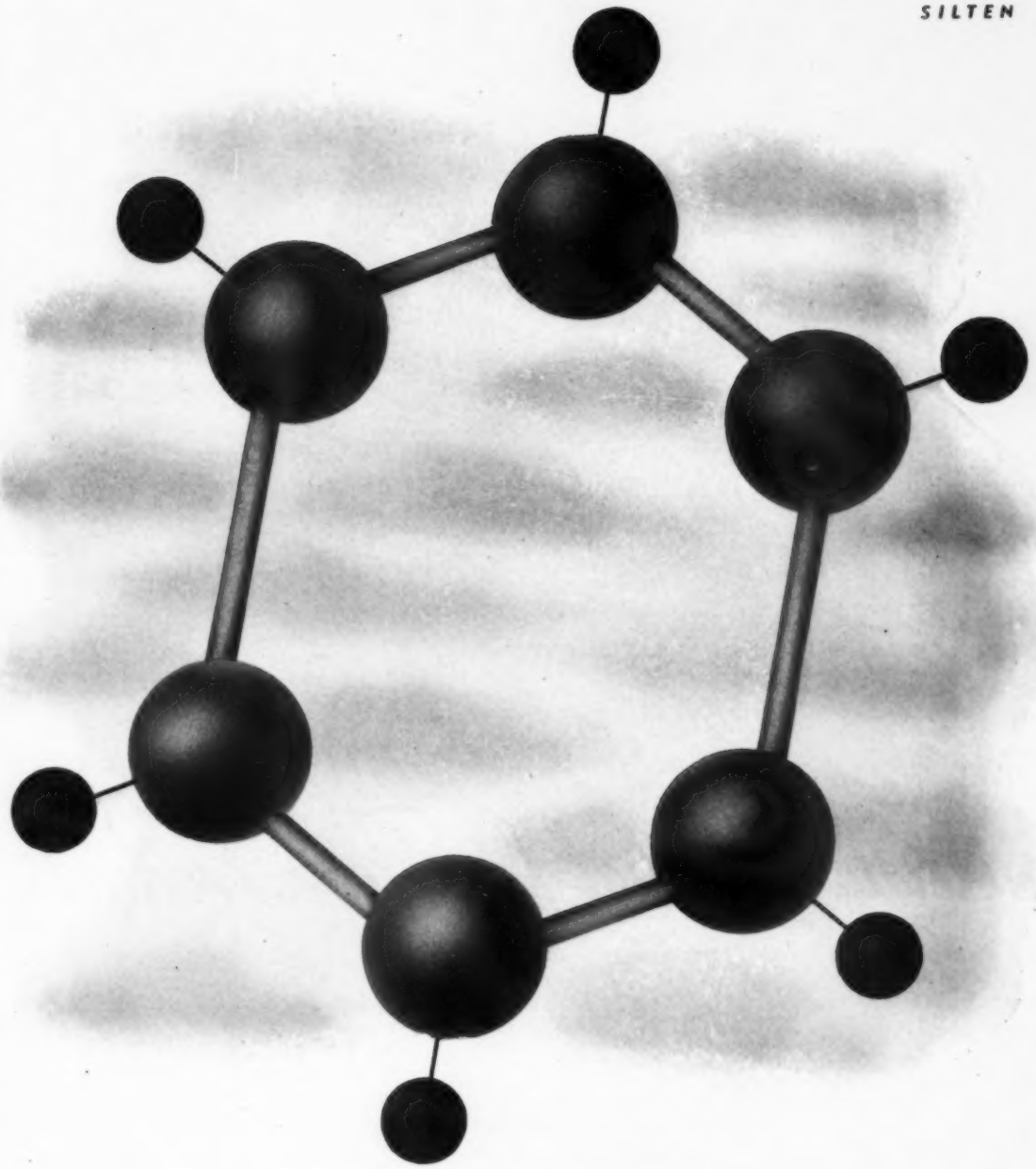

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the *scientifically* developed synthetic Bergamot oil

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Fine Alcohol for Fine Products

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Telephone: Cherry 2694

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They are fighting for all of us

Let us give for all of them

The Proud Service Flag of New York City

MATCH THEIR GALLANTRY
WITH YOUR GIVING

Our men and women are in uniform.

Our sailors are on the seas.

Our hearts are with them and our Allies.

And with our hearts goes our money.

So give now – as generously as you can.

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NATIONAL WAR FUND

57 William Street, New York 5, N. Y.

GIVE ONCE FOR ALL OF THESE TWENTY-SIX AGENCIES

NATIONAL AGENCIES U S O, United Seamen's Service, War Prisoners Aid, Belgian War Relief Society, British War Relief Society, French Relief Fund, Friends of Luxembourg, Greek War Relief Association, Norwegian Relief, Polish War Relief, Queen Wilhelmina Fund, Refugee Relief Trustees, Russian War Relief, United China Relief, United Czechoslovak Relief, United Yugoslav Relief Fund, United States Committee for the Care of European Children.

NEW YORK AGENCIES New York City Defense Recreation Committee, American Women's Voluntary Services, C.D.V.O. – Community Services, English-Speaking Union, New York City Women's Council of the Navy League of the United States, New York City Nursing Council for War Service, Officers Service Committee, Ships' Service Committee, Soldiers and Sailors Club.

(THIS SPACE CONTRIBUTED BY)
ROURE-DUPONT, INC., 366 Madison Ave., New York, N. Y.

for THIS battle, G.H.Q. is at YOUR own desk!

★ Here's how you—yes, YOU—can carry out a smashing "pincer movement" against the Axis. Swing in on one flank with increased production of war goods! Drive in on the other with redoubled purchases of War Bonds through your Pay-Roll Savings Plan!

You're an officer in both of these drives. Your personal leadership is equally vital to both. But have you followed the progress of your Pay-Roll Savings Plan as closely as you have your production?

Do you know about the new Treasury Department quotas for the current Pay-Roll Allotment Drive? *Quotas running about 50% above the former figures?* You see, these new quotas are based on the fact that the armed forces need more money than ever to win the war, while the average worker has more money than ever before to spend. Particularly so, on a *family income* basis—since in so many families several members are working, now.

Remember, the bond charts of today are the sales curves of tomorrow! Not only will these War Bonds implement our victory—they'll guard against inflation, and they'll furnish billions of dollars of purchasing power to help American business re-establish itself in the markets of peace.

So get this new family income plan working at once. Your local War Finance Committee will give you all the details of the new plan. Act today!

This advertisement prepared under the auspices of the War Advertising Council and the U. S. Treasury Department.

LET'S KEEP ON Backing the Attack!

This Space is a Contribution to America's All-Out War Effort by

DRUG & COSMETIC INDUSTRY

Pilocarpine

● ALKALOID PENICK ● HYDROBROMIDE PENICK ● HYDROCHLORIDE N.F. PENICK

● NITRATE U.S.P. PENICK ● SALICYLATE PENICK ● SULPHATE PENICK

AMPLE SUPPLIES AVAILABLE; NO EXPECTATION OF SHORTAGE

CONCERNING available supplies of Pilocarpine and Salts, it seems desirable to say that S. B. Penick & Company is in position to provide for all regular needs . . . In addition to its ample ready-to-ship production, Penick has on hand substantial stocks of crude material, and adequate manufacturing facilities to meet any demand that foresight can envisage.

Prices, according to quantities required, are quoted on request.

Aconitine, Amorphous
Aconitine, Crystals U.S.P. X
Allantoin, Penick
Aloin, U.S.P., Penick
Ammoniated Glycyrrhizin, Penick
Arecoline, Hydrobromide, N.F., Penick
Asparagin
Atropine Alkaloid, U.S.P., Penick
Atropine Sulphate, U.S.P., Penick

Berberine Acid Sulphate
Berberine Hydrochloride, Penick
Berberine Sulphate, Penick
Brucine
Brucine Sulphate

Chrysarobin, U.S.P., Penick
Colchicine, U.S.P., Penick
Colchicine Salicylate, Penick

Digitalin (so-called German) N.N.R.
Digitonin, Penick

Elatorium, Penick
Emetine Alkaloid, Penick
Emetine Bismuth Iodide
Emetine Hydrochloride, U.S.P., Penick
Ephedrine Alkaloid, U.S.P., (Natural)
Ephedrine Hydrochloride, U.S.P., (Natural)
Ephedrine Sulphate, U.S.P., (Natural)
Eserine Alkaloid, Penick
Eserine Salicylate, U.S.P., Penick
Eserine Sulphate, U.S.P. VIII, Penick

Helenin, Penick
Histidine, Penick
Histidine monohydrochloride, Penick
Homatropine Alkaloid, Penick
Homatropine Hydrobromide, U.S.P., Penick
Homatropine Hydrochloride, Penick
Homatropine Sulphate, Penick
Hydrastine Alkaloid, U.S.P., IX, Penick
Hydrastine Hydrochloride, N.F., Penick
Hydrastine Sulphate, Penick
Hyoscine Hydrobromide, U.S.P., Penick
Hyoscine Hydrochloride, Penick
Hyoscyamine Alkaloid, Penick
Hyoscyamine Hydrobromide, U.S.P. X, Penick
Hyoscyamine Sulphate, Penick

Jalap Resin, N.F., Penick

Lobeline Sulphate, Penick

Ouabain (Strophanthin-G), U.S.P., Penick

Physostigmine, Penick
Picrotoxin, U.S.P., Penick
Pilocarpine Alkaloid, Penick
Pilocarpine Hydrobromide, Penick
Pilocarpine Hydrochloride, N.F., Penick
Pilocarpine Nitrate, U.S.P., Penick
Pilocarpine Salicylate, Penick
Pilocarpine Sulphate, Penick
Podophyllin, N.F., Penick

Quinine
Quassin, Penick

Sanguinarine, Penick
Sanguinarine Nitrate, Penick
Sanguinarine Sulphate, Penick
Santonin, Penick
Saponin Depurated, Penick
Scammony Resin, N.F., Penick
Scopolamine Hydrobromide, U.S.P., Penick
Sparteine, Penick
Sparteine Sulphate, N.F., Penick
Stilbestrol, Penick
Strophanthin-G (See Ouabain)
Strophanthin-K, U.S.P. XI, Penick
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Totaquine, U.S.P., Penick

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Telephone: MOhawk 5651

50 Church Street, New York 7, N. Y.
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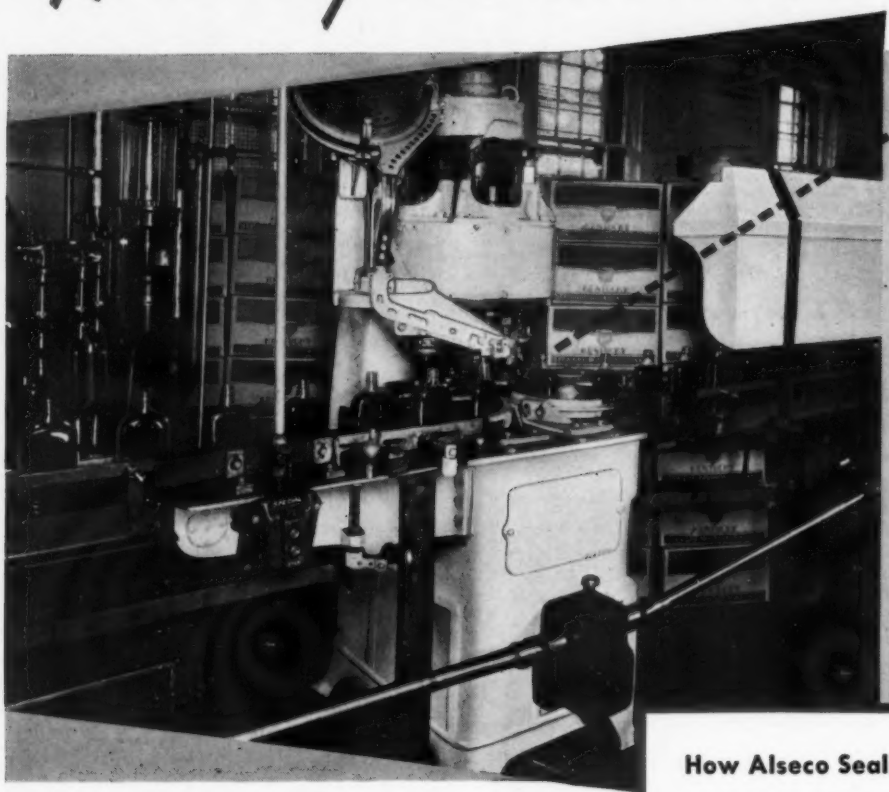
Buy War Bonds and Stamps — For Victory

ALKALOID EXTRACTING MANUFACTURERS

*Hard-to-get Dollars** may come from here



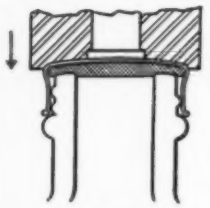
• To this Alseco RB Machine with auxiliary drives to synchronize washing, filling, sealing and labeling, 240 bottles a minute is an easy pace to keep up, hour after hour. All the help it needs is to have the hopper filled occasionally.

Hard-to-get Dollars are the ones in the last line of a P. & L. statement. Net profit dollars. After the war, yours will depend in part on how quickly you can inject a double slug of efficiency into your sealing operations.

Fast, efficient, automatic Alseco sealing machines will help you materialize those Hard-to-get Dollars by upping the output of your line per man-hour. Together with tailor-made Alseco Seals (see diagrams), they have a way of widening the profit margin.

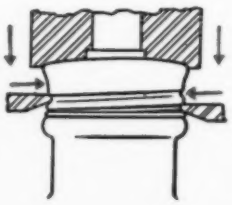
Now is the time to start your planning. We can help with facts and figures.

How Alseco Seals are Tailor-Made



1. Plain-skirted Alseco Seal is uniformly seated. Under stationary top pressure, container lip is embedded in liner evenly all around.

2. While held in that position, threads are Rolled-On to conform exactly to threads on container. Each seal is tailor-made, fits perfectly.



Trade Mark Reg. U. S. Pat. Off.

ALSECO

TAILOR-MADE

SEALS AND SEALING MACHINES

ALUMINUM SEAL COMPANY • 1323 THIRD AVENUE • NEW KENSINGTON • PENNSYLVANIA

NOT DEPENDENT ON GLYCERINE

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EMULSIFIER FOR

CREAM COLOGNES - COSMETIC STOCKINGS

HAND CREAMS AND LOTIONS

TEGACID-P

EMULSIFIER FOR

ANTI-PERSPIRANTS AND DEODORANTS

CREAMS AND OINTMENTS

EMULSIFIERS	PRESERVATIVES	LANOLIN ABSORPTION BASES
TEGIN For Greaseless Hand Creams and Lotions	**TEGOSEPT M** For Lotions	**PROTEGIN X** For Ointments and Night Creams
TEGACID **Regular and Special** For Anti-Perspirants, Deodorants, Creams, and Lotions	**TEGOSEPT P** For Creams	**ISOLAN** For Soft Creams and Lotions
	TEGOSEPT E	
	BUTYL TEGOSEPT	
	BENZYLTEGOSEPT	

GOLDSCHMIDT CHEMICAL CORPORATION

153 WAVERLY PLACE NEW YORK, N. Y.

SALES REPRESENTATIVES

ATLANTA BOSTON LOS ANGELES PITTSBURGH ST. LOUIS TORONTO

DR. JOHN T. DAWSON HAS A NEW ADDRESS...

The Ninth Evacuation Hospital

TENS of thousands of medical men just like Dr. Dawson have relinquished private practice for the duration. You'll find them in the mire of Europe's soft underbelly, dank jungles of the Pacific Islands, the Aleutians — wherever American soldiers fight.

On the home front hundreds of thousands of families must get along without their favorite physicians. Hence an even greater responsibility today falls upon the chemical and drug industry.

As might be expected, alert pharmaceutical manufacturers look to MALLINCKRODT for fine chemicals to produce vitamin products and other health preparations. Since 1867 MALLINCKRODT has weathered the crises in American history. A backlog of experience in troubled times enables MALLINCKRODT to cope with the present emergency.

MALLINCKRODT'S complete assortment of pure pharmaceutical chemicals, standardized by strictest laboratory control, are available in plentiful supply for manufacturers of medicinal products.... Insist on the MALLINCKRODT seal, symbol of trustworthiness, when you place your next order.

COMPLETE LINE OF FINE CHEMICALS FOR MEDICINAL MANUFACTURE

FOR VICTORY BUY UNITED STATES WAR BONDS STAMPS

FINE CHEMICALS Mallinckrodt SINCE 1867

MALLINCKRODT CHEMICAL WORKS

76 Years of Service to Chemical Users

Mallinckrodt Street, St. Louis 7, Mo. • 74 Gold Street, New York 8, N. Y.

CHICAGO • PHILADELPHIA • LOS ANGELES • MONTREAL

KEEPING POSTED

Spend More on Medicine

AN INDICATION of the effect of rising incomes on the desire of the public to pay more for their medical treatment is given in a recent statement of New York City Commissioner of Hospitals Edward M. Bernecker who said that despite the steadily rising birth rate, maternity wards of city-owned hospitals are operating below capacity. A hospital census showed that of 708 beds reserved for maternity cases, only 390 were occupied. The rising wartime incomes, the Commissioner declared, are causing more maternity and other patients to go to private and voluntary institutions. These include the wives of service men who are receiving Federal aid for maternity care.

Figures from private and voluntary hospitals in the city revealed that reservations for rooms in the maternity sections are increasing, and that the number of deliveries has been substantially increased in recent years by reducing the length of time maternity patients remain in the hospital. Before the war, the average time for such cases was twelve to fourteen days, while today a ten-day hospitalization is the general rule.

Penicillin Advancing

PENICILLIN is a drug that is basking in the light of publicity, both within the industry and in the public eye, to an extent that perhaps no other drug has ever enjoyed. Manufacturers continue to be added to the list, and many of them are enjoying government subsidies. E. R. Squibb & Sons has announced that they have isolated a pure crystalline sodium salt of penicillin. The next step is to determine the chemical structure of this sodium salt—no mean task in itself—and then to determine a method of synthesizing the product.

A WPB Penicillin Advisory Committee was recently named with the following members:

Dr. H. S. Adams, of the Upjohn Company, Kalamazoo; Elmer H. Bobst, of Hoffmann La-Roche, Inc., Nutley, N. J.; Dr. Harry Cheplin, of the Cheplin Biological Laboratories, Syracuse, N. Y.; R. S. Childs, of the Lederle Laboratories, New York; S. DeWitt Clough, of Abbott Laboratories, North Chicago, Ill.; Dr. Robert K. Cutter, of Cutter Laboratories, Berkeley, Calif.; A. H. Fiske, of Eli Lilly & Co., Indianapolis; Kenneth H. Hoover, of the Commercial Solvents Corporation, Terre Haute, Ind.; James J. Kerrigan, of Merck & Co., Inc., Rahway, N. J.; Dr. Theodore G. Klumpp, of the Winthrop Chemical Company, New York; Dr. A. W. Lescohier, of Parke, Davis & Co., Detroit; Dr. A. J. Liebman, of Schenley Research Institute, Inc., Lawrenceburg, Ind.; Carleton H. Palmer, of E. R. Squibb & Sons, New York; Dr. John Reichel, of the Reichel Laboratories, Inc., Kimberton, Pa.; Blythe Reynolds, of the Heyden Chemical Corporation, Garfield, N. J.; John L. Smith, of Chas. Pfizer & Co., Brooklyn, N. Y.; and R. Templeton Smith, of Ben Venue Laboratories, Bedford, Ohio.

Ipecac and Emetine

IPECAC and its derivative, emetine, were recently placed under allocation due to an extremely short condition existing in this country. Ipecac normally comes from Nicaragua, Colombia, and Brazil. Within recent times, due to labor stringencies in the other countries, Brazil has become our main source of supply. However, due to the fact that the OPA had put a ceiling on the prices that could be paid for ipecac for import, while emetine remained with a ceiling price, ipecac has not been coming into this country. This is only natural for two reasons, one of which is that other countries could outbid our importers on ipecac, and the other of which is that the Brazilians would rather keep the ipecac with its fixed price and extract the emetine for which a relatively higher price could be obtained.

Vitamin A Stocks

STOCKS of vitamin A held by producers and pharmaceutical manufacturers in this country totaled 64,047,835 million units (64 trillion), on July 31, according to the Fish and Wildlife Service. Of this total 59,046,835 million (59 trillion) units were in the form of fish liver oils and concentrates, and 5,001,000 (5 trillion) units were in the form of livers and other viscera. Important sources of vitamin A include soupfin shark, dogfish shark, cod, halibut, ling cod, sablefish, and tuna. Production of vitamin A from fish livers and other viscera during the month of July totaled 5,294,656 million (5 trillion) units. Stocks of vitamin A in oils and concentrates on hand at the end of July represented a drop of approximately 6,000,000 million (6 trillion) units from the amount held at the beginning of the month. However, the potential yield from livers and viscera on hand at the end of July was estimated at 1,411,000 million (1.4 trillion) units greater than on July 1.

Synthetic Papaverine in N. F.

SYNTHETIC papaverine hydrochloride has been admitted to the National Formulary. The definition in the third supplement to be published this month, now reads:

"Papaverine Hydrochloride is the hydrochloride of an alkaloid obtained from opium, or produced synthetically."

The change has become necessary because of a greatly increased demand that cannot be supplied entirely from opium. The increased demand is due to a growing recognition of the value of papaverine as an antispasmodic, and to the fact that other countries of the Western Hemisphere which formerly obtained the drug from Axis Countries, have now turned to this country for supplies.

Maleic Acid Under Allocation

MALEIC anhydride and maleic acid have been placed under allocation by WPB. The condition in these products has been extremely tight for some time past. The products are now being used in the manufacture of synthetic resins, leather treating agents, and rubber. This is just another instance of a product that went begging for a market in peacetime, being inadequate in production for wartime demands.

Tin Tube Salvage

THOSE tooth paste and shaving cream tubes that customers have been turning in for more than a year, have brought more than 1,000,000 pounds of vitally important tin into the nation's stockpile, according to W. M. Rose, president of the Tin Salvage Institute. While the metal is coming in at a high rate, it is still important that druggists continue to collect those tubes and that wholesalers collect them from the retailers and ship them to the reclamation point at Newark, N. J. The metal that has been realized from this source has been used in both direct and indirect war work. It has gone into submarines, planes, radio equipment, tanks, engine bearings, and the like. The need for it is no less now than it was a year ago.

Peppermint and Spearmint Ceilings

CEILING prices have been placed on oil of peppermint, oil of spearmint, and methyl salicylate. Natural oil of peppermint now has a ceiling price of $6.00 per pound, while the U. S. P. redistilled oil of peppermint cannot be sold at more than $6.35 per pound. Natural oil of spearmint has a ceiling price of $4.00 per pound, while methyl salicylate cannot be sold at more than 40 cents per pound in 500 pound lots, 43 cents per pound in 50 pound lots, 44 cents in 25 pound lots, 46 cents in 10 pound lots, 49 cents in 5 pound lots, and 55 cents in one pound lots.

Peppermint oil was recently frozen by WPB due to the fact that the government was unable to obtain a large lot for Lend-Lease in the open market.

Alcohol Developments

THE alcohol situation does not show much change, the government requirements remaining high, and the industry quotas remaining the same. As is generally known, liquor distillers have been bringing in alcohol from Cuba and other places for blending purposes. This alcohol is only 140 proof, as if 190 proof alcohol was imported it might be taken by the government for war purposes. It is reported that some cosmetic manufacturers are shipping their perfume concentrates to Cuba, Puerto Rico, or other places where the concentrates are mixed with alcohol and the resulting perfume or toilet water imported into this country as finished products in bulk. As the result of Cuba's activity, her alcohol production is said to have risen from a normal of 25,000,000 to 30,000,000 gallons, to a production this year of 70,000,000.

Government negotiations to purchase 180,000,000 gallons of Cuban molasses from a delegation which came to this country from Cuba recently fell through when the government tried to buy the molasses for a price of 5 5/8 cents compared with 13 cents paid last year, and further compared with a ceiling price on domestically produced molasses of 18 cents. This means that wheat will not be released for food purposes to the extent that it must be used to produce the alcohol that could be produced from this 180,000,000 gallons of molasses. Naturally, the government is trying to bring the price that it pays for molasses back to somewhere near normal which is 5 cents or less in peacetime.

T.G.A. Scientific Section

THE Toilet Goods Association has established a Scientific Section in accordance with a recommendation of its last convention. The section will expand the work previously done by the Scientific Advisory Committee, and part of the work of the Association's Board of Standards. Membership in the section is open to individuals connected with active or associate member firms. Permanent officers of the section will be a Chairman, a Vice-chairman who will also serve as Chairman-elect, and they will be elected at the first regularly scheduled meeting to be held in conjunction with the Association's 1944 annual convention. H. D. Goulden, director of the Board of Standards of the Association, has been appointed temporary chairman to serve until that time.

Plans are being formulated for a special meeting of the new section to be held in January, 1944. A temporary program committee has been appointed consisting of: Dr. Frederick J. Austin, Hudnut Sales, Inc.; Dr. H. Coutinho, George W. Luft Co.; L. B. Dobie, Bristol-Myers Co.; J. R. Martin, Coty, Inc.; Dr. E. C. Merrill, United Drug Co.; Dr. K. L. Russell, Colgate-Palmolive-Peet Co.

Soap Output to be Increased

AFTER informing us early last month that soap production was to be cut, the War Food Administration informs us later in the same month that soap production is to be increased. WFA now says that additional fats and oils are to be made available for soap manufacture under a program that will provide 25.4 pounds of soap per person compared with 23.4 pounds in 1942, and 25.3 pounds in the prewar years of 1937 to 1941. Household packaged and bar soaps will be increased from 17 pounds per person to 22 pounds per person. Now if we can believe this statement, this industry might get increased supplies of glycerine after all.

Vitamins in Chocolate

CHOCOLATE has been found by the British to be the most practical means of providing vitamins in a palatable form for children of 7 to 14 years, and the cocoa butter is a natural preservative against loss of potency of vitamins. Vitamins A, B_1, C and D are being incorporated in one ounce bars of chocolate for distribution in Europe when freed.

The efficacy of this product has already been proven in Malta. When Dr. J. C. Drummond, scientific adviser to the Ministry of Food, visited Malta after its resistance to siege and bombing he found the nutrition of the children such that he recommended that supplies of vitaminized chocolate be sent. During the war many experiments have been made to determine the best medium for vitamins. Biscuits, sweets, and spreads of all kinds have been tried, and chocolate has been found to be the best.

While vitaminized chocolate will not be on sale in this country at least for the duration due to the heavy government demands, we wonder what effect this will have upon the vitamin market after the war. Certainly the drug manufacturers will doubtless have vitamins in chocolate, but doubtless also will the confectioners have chocolate containing vitamins. Vitamin tablets and capsules might occupy a minor place in the vitamin picture.

Pharmacy and the Manufacturers

WITH reference to the articles which appeared in our September issue entitled "Pharmacy and the Manufacturers," we have received a letter of criticism from Linwood F. Tice, editor of the "American Journal of Pharmacy," Philadelphia. The letter follows:

"I wish to call your attention to certain errors in the article 'Pharmacy and Manufacturers' which appeared in the September 1943 issue of Drug and Cosmetic Industry.

"In the third paragraph you make the statement 'As a means of getting more pharmacists in a shorter time, pharmacy colleges inaugurated the accelerated course of two years and eight months with summer vacations or holidays.' It is obvious that you mean without vacations or holidays, but I am afraid that not all of your readers will appreciate this fact.

"In the same paragraph you go on to say that 'Finally the pharmacy colleges were told by Washington that they could cut their courses to two years, students would be allowed to graduate. This was particularly pleasing to the colleges of pharmacy . . . '

"By this statement you lead your readers to believe that Washington recommended a two year course in Pharmacy. This is absolutely contrary to fact. It is, furthermore, in error to state that this was pleasing to the colleges of Pharmacy. Are you not aware that at the recent meeting of the American Association of Colleges of Pharmacy held in Columbus, Ohio, September 9-11, the association unanimously passed a resolution to the effect that any reduction of time below the present two years and eight months now in effect would not be considered sound educational practice?

"In all fairness to the large number of colleges of Pharmacy which are struggling to maintain our educational standards in the face of great difficulties, I feel that some clarification should be made by your Journal on these misleading statements.

"We, in the educational field, see only one hope for the future of Pharmacy and that is to raise its status by improved educational standards as did our sister profession of medicine. There is no other simple way. We are now laboring to overcome the damage done in those years when too many poorly trained men were turned out as Pharmacists. It is true that there is a shortage and it is this shortage which has influenced Selective Service to grant a man two years deferment if he is a *bona fide* student in Pharmacy and can graduate within that period. The colleges therefore must make special efforts to get young men in the lower age groups directly from high school in order to provide some men for this growing need. We must, however, insist that no destruction of our educational program be permitted since, to do this for any reason, would destroy all that we have worked for these last ten years."

Doctors in Armed Forces

THE Army and Navy have not sufficient doctors and claim that they should have 7,000 physicians and 800 dentists through December 31 "to insure even minimal care of the wounded." The War Manpower Commission recommended a ratio of 8.5 doctors per thousand men, and this proportion was made a matter of Army requirement. Since March 18, 1943, however, the Army has reduced its demand to 6.6 doctors per thousand men in combat areas, and 4.6 doctors per thousand men in non-battle areas. The changed ratio works out to a total of 53,000 civilian doctors for the Army and Navy. Of these, about 46,000 had been commissioned as of August 15, but commissioning of doctors is falling behind the monthly quotas assigned.

The average doctor who joins the Armed Forces is faced with a reduction of more than fifty per cent in income. Doctors of the age-group being commissioned would ordinarily become first lieutenants in the Army, or lieutenants (j.g.) in the Navy, with a base pay $2,000 plus allowances of $1,404 annually, against probably earning of around $8,000.

This month the Department of Commerce reported that physicians with private practices earned $1,087,000,000 in 1941, a gross income unmatched by either independent lawyers or dentists. Gross incomes for physicians practicing independently averaged 60.6 per cent above the 1933 depression low. Physicians practicing independently incomes aggregated $640,000,000, 73.9 per cent above 1933 and another record high. On the basis of questionnaires to a representative group of physicians, the gross average 1942 income was $8,524, but one-fourth of the physicians reporting had incomes below $2,000. More than one in eight reported earnings above $10,000, and 22.1 per cent earned $7,000 or more. The incomes of physicians practicing in New York City were below those in any other city of more than 500,000 population and in the country as a whole.

Minerals Exempted from Inventory

GENERAL Inventory Order M-161 has been amended exempting certain specified minerals from the order. The following are the minerals of

interest to this industry which are exempted: Bentonite, Kaolin, Pyrophillite, Soapstone, Salt (in bulk), Borax (hydrated and dehydrated), Boric Acid.

Vitamin and Mineral Claims

THE Federal Trade Commission recently issued a Cease and Desist Order against a manufacturer advertising a vitamin and mineral product. In the Findings as to the Facts, the Commission included the following statements:

". . . respondent has represented, directly or by implication, that through the use of its product persons who are weak, emaciated, thin, and underweight can overcome such conditions; that through the use of such product persons who are without shapeliness of form or figure can acquire attractive form and figure and develop well-proportioned bodies; that the use of such product enables persons who are tired and run-down to recover or regain normal health, strength, and vigor; and that persons who by reason of undernourishment or underweight are suffering from such conditions as sour or acid stomach, gas, and indigestion may be relieved of such conditions through the use of respondent's product."

"The ingredients which form the basis for the claims made by respondent for the therapeutic properties of the product are vitamin B-1, iron, iodine, calcium, and phosphorus. Insofar as calcium and phosphorus are concerned, the expert testimony in the record establishes that there is no relation between a deficiency of these minerals and the conditions for which respondent recommends its product. As for vitamin B-1, iron and iodine, the amount of these ingredients in the product is wholly insufficient to be of any therapeutic significance. The amount of vitamin B-1 in each tablet is approximately 22 International or USP (United States Pharmacopoeia) Units. As the directions for use provide for the taking of eighteen tablets per day, this would make the total daily intake of vitamin B-1 396 International Units. It is undisputed that where a deficiency of vitamin B-1 exists, the recognized minimum therapeutic dose of vitamin B-1 is 3300 International Units per day, continued over such period of time as may be necessary to overcome the deficiency. The amount of vitamin B-1 in respondent's product therefore falls far short of the minimum therapeutic dosage, and such amount is incapable of any therapeutic effect.

"In the case of iron, the content of each tablet is 2.8 milligrams provided in the form of one-fourth grain of iron ammonium citrate, and one day's dosage of eighteen tablets would supply 50.4 milligrams of iron in the form of 4½ grains of iron ammonium citrate. The recognized therapeutic dosage of iron ammonium citrate ranges from 45 to 135 grains per day. The daily dosage of 4½ grains of iron ammonium citrate in respondent's product would be insignificant and without value from a therapeutic standpoint. As for iodine, the evidence establishes that the amount present in respondent's product is wholly insufficient to have any therapeutic value in the treatment of the conditions referred to in respondent's advertisements.

"Respondent's product is therefore wholly incapable of enabling persons who are weak, emaciated, thin, or underweight to overcome such conditions. The product is likewise incapable of enabling any individual to develop a well-proportioned body or acquire shapeliness of form or figure. It is ineffectual for overcoming tired or run-down conditions, and its use does not result in the recovery of health, strength, or vigor. The product is likewise incapable of exerting any therapeutic effects upon such conditions as sour or acid stomach, gas, or indigestion.

"It is urged by respondent that its product is a food rather than a drug; that it is a dietary supplement; and that the amounts of certain of the minerals and vitamins provided by the daily dosage of the product equal or exceed the minimum daily requirements of such minerals and vitamins according to standards established by the Food and Drug Administration. The Commission is of the opinion, however, that, assuming this to be true, the fact has no material bearing upon the issues involved in the present proceeding. The standards set up by the Food and Drug Administration presupposes that the individual is in good health and that he is not suffering from a deficiency of any of the minerals or vitamins in question. Respondent's advertisements, on the other hand, are directed to persons who are assumed to be deficient in such minerals or vitamins, and the conclusion is inescapable from the record that where a deficiency exists, the standards set up for minimum daily requirements have no application. In such cases nothing short of the recognized minimum therapeutic dosage of the minerals or vitamins is effective. For persons who are in normal health, respondent's products might serve as a dietary supplement and might aid in preventing certain mineral or vitamin deficiencies, but it is wholly incapable of any significant effect where a deficiency already exists."

Manufacturers will do well to study these statements of the F. T. C. since they give information concerning the views of the members of the Commission, and views that also prevail in the Food and Drug Administration.

Cold Tablet Claims

A COMPLAINT issued by the Federal Trade Commission against a manufacturer of cold tablets contained the following statements:

"' . . . Cold Tablets act almost instantly to bring wonderful relief from annoying cold symptoms;' and 'try this way next time you're catching cold. . . . . take according to directions . . . . And relieve the annoying symptoms of your cold almost before they get started.' These and other similar statements and representations are declared by the complaint to be exaggerated, false and deceptive, and to constitute false advertisements for the further reason that they fail to reveal facts material in the light of such representations with respect to the consequences which may result from use of the preparation under the conditions prescribed in the advertisements and under such conditions as are customary. Among other ingredients in the preparation, the complaint alleges, is the drug acetanilid, continued use of which in a quantity exceeding the recommended dose or with greater frequency than that recommended may cause dependence upon the drug and collapse, while administration to children may be dangerous and injurious to health.

"The preparation also contains the drug cascara sagrada which, the complaint alleges, is an irritant laxative and potentially dangerous when taken by a person suffering from symptoms of appendicitis."

N. W. D. A. Meeting

FROM the point of view of total registration and attendance at the business sessions, the N.W.D.A. meeting at the Waldorf-Astoria Hotel in New York seemed to be an outstanding success. The fact that the meeting is no longer held at White Sulphur Springs has not lessened the importance of the meeting in the eyes of those who are accustomed to attend. Neither has the lack of entertainment every evening, a golf tournament, and other embellishments added to the meeting in the years it was held at a resort hotel lessened the interest in the meeting. The banquet was an outstanding success even though the dress was informal in keeping with the grimness of the times.

Castor Oil Unrestricted

FOOD Distribution Order 32 covering the use and distribution of castor oil has been amended, suspending temporarily the restrictions on delivery, acceptance of delivery, use, processing, and blending of castor oil during the period beginning October 1, 1943, and ending Dcecmber 31, 1943.

Shipping Container Order

WPB Order L-317, issued October 11, allocates the supply of fiber shipping containers to the most urgent uses. The order controls the manufacture and use of new fibre shipping containers including any box, crate, case, basket, or hamper in set-up or knock-down form made in whole or part from corrugated or solid fibre (.060 or heavier), and including also any corrugated or solid fibre (.060 or heavier) sheet or roll to be used for wrapping, packaging, or otherwise protecting a product or material for shipment. The order (1) prohibits the manufacture of certain types of non-essential fibre containers, e.g., bottle and can carry-outs, counter boxes and display-shippers; (2) prohibits entirely the use of new fibre containers for packing certain products including advertising displays, posters, catalogues and magazines (including house organs); (3) restricts to weighted quotas (65 to 80 per cent of use in the corresponding quarter of 1942) the amount of new fibre containers which may be used quarterly for packing other products, e.g., cosmetics, perfumes, flowers, games, dry animal foods, beverages and paints. Animal proprietary drug remedies are restricted to a 65% quota. Use of new fibre containers for retail deliveries after Oct. 1 is limited to 80% of quota for mail orders and 65% for other methods of delivery. Users of not more than $500 worth of new containers a year are exempt from the restrictions of the order.

Agar Agar Position

WITH reference to Agar-Agar the Department of the Interior issued the following statement: "No adequate substitute has been found for agar, the gelatinous substance which comes from certain seaweeds, for bacteriological work although adequate substitutes for some of its industrial uses are now being employed, Dr. Leslie A. Sandholzer, technologist of the Fish and Wildlife Service of the Department of the Interior, said today in a paper read before the American Public Health Association in New York. 'Until the attack upon Pearl Harbor, the United States had been dependent on the Orient for most of its supply of agar (92 per cent from Japan and China in 1941), the paper, prepared by Dr. Sandholzer and Leonard S. Stoloff, also an FWS technician, declared. 'Of this supply, 18 per cent was used for the preparation of bacteriological culture media. The War Production Board, recognizing the potential menace to the health service of the nation by loss of the Oriental imports, restricted the use of agar to bacteriological purposes. The scarcity of agar and the purchase of it by the Defense Supplies Corporation to establish a stockpile have stimulated domestic production to a level believed adequate to meet the domestic requirements for bacteriological media. There are sufficient facilities to maintain production, and careful screening of Lend-Lease demands is contributing to the maintenance of an adequate stockpile.' The technicians are now at work to obtain a definition of the physical and chemical properties of agar. Lack of an adequate scientific description of the substance has previously handicapped searches for a satisfactory substitute for its bacteriological uses. Preliminary work on these investigations has now been completed and it is expected that a final report will be ready within a matter of weeks. It is hoped, Dr. Sandholzer said, that 'promulgation of standard test method and specifications for bacteriological agar will accomplish two purposes. First, it will direct present searches for bacteriological agar toward a definite goal. Second, it will provide the bacteriologist with a product upon which he can rely for uniform results.' Agar is used as a stabilizer in ice cream, candy, dairy products, and cosmetics."

Health Insurance

THE following is an editorial titled "Health Insurance" appearing in a recent issue of the *New York Times*:

"Those who listened to a recent radio discussion of post-war medical planning in which Dr. Morris Fishbein was pitted against industry (represented by Henry J. Kaiser), organized labor (championed by Robert J. Watt), and medical liberals (whose case was presented by Drs. Ernst Boas and Kingsley Roberts), must have been struck by the change in organized medicine's attitude since the National Health Conference was held five years ago. It was then stoutly maintained that the country was getting the medical care that it needed and that physicians, philanthropists and State Governments charitably aided the sick who could not pay. In the radio discussion it was tacitly admitted that medical care must be more widely distributed. Indeed, Dr. Fishbein even went so far as to praise the health insurance plans which have been sponsored by the American Medical Association, and even said a kind word for commercial insurance companies which he had hitherto attacked. No one took the trouble to point out that no health insurance system, compulsory or voluntary, guarantees the quality of medical care or does anything for preventive medicine, which must be our mainstay if we are to hold taxes down.

(Continued on page 392)

GROUP MEDICINE

With the change in the attitude of organized medicine toward group medicine and health insurance it is time for the drug manufacturers to take stock of their own positions in the changed conditions in medical practice. Those who do not believe that group medicine is here in part and will continue to expand should study the latest utterances of Dr. Morris Fishbein, editor of the "Journal of the American Medical Association" and spokesman for the A. M. A., as well as Paul de Kruif's latest book, "Kaiser Wakes the Doctors."

The U. S. Supreme Court decision which restrained the A. M. A. from interfering with the practice of group medicine in Washington, D. C., as well as the attitude of War Manpower Commission in preventing the 1A classification as non-essential of doctors practicing group medicine for Kaiser shipyard workers, gave the green light to group medicine in this country and tied the hands of the A. M. A. officials in their attempt to prevent this type of medical practice from obtaining a foothold in this country.

Now Dr. Fishbein is merely fighting to prevent medical practice from getting into the hands of the government. He is perfectly willing to have medicine practiced under group or insurance plans, and the doctors engaged in this sort of practice can still be members of the A. M. A. in good standing. In fact Dr. Fishbein recently spoke of the large number of people in this country who are insured against hospitalization, and saying that the large majority of people do not want to be insured against all illness, but rather against catacylsmic illness, he declared that a plan must be evolved to give them this type of insurance.

Dr. Fishbein has pointed out that while the Federal government should not become involved in medicine, that, nevertheless, there are certain inequalities that the Federal government can and should equalize. One of the inequalities to which he referred is the fact that some States of the Union have seven hospital beds per 1,000 people, while other States have only two and one-half beds per 1,000 people. The figure that is generally accepted as adequate is five beds per 1,000 people.

Another inequality that Dr. Fishbein said could be corrected by the Federal government is the fact that one State will spend only 22 cents per capita on public health while another State will spend as high as $2.20 per capita.

Another statement that Dr. Fishbein recently made was that no matter what type of plan was evolved in this country for the practice of medicine, the plan must be operated by physicians. Therefore, according to Dr. Fishbein, the problem of curbing the trend toward the type of socialized medicine as represented in the Wagner-Murray-Dingle Bill does not really belong to the physicians but really to the pharmaceutical manufacturers. This is so, according to Dr. Fishbein, because under such conditions there would be no ethical specialties, but only official drugs that everybody would make; and there would be no advertising permitted since there would be no point to everybody advertising the same thing.

It is doubtless true that if medicine was taken over by the Federal Government, nothing but official preparations would be used except in very rare cases. Also the Murray-Wagner-Dingle Bill provides that the manufacturers would not conduct any research, all research being conducted by the Government. This would mean that all new products, except those patented in foreign countries, would be patented by the Government and rights assigned to all manufacturers who wanted to make them. Thus the incentive would be taken out of drug manufacturing and the industry would consist of a number of people all making similar products. The fact that only official products would be used if the Government took over medicine is proved by the fact that during the depression of the thirties the Government would not approve for payment any drugs used in relief cases except official drugs.

While group medicine is a wonderful thing in theory, it must be administered by the proper physicians. Apparently under the Kaiser plan as administered by Dr. Garfield, group medicine leaves nothing to be desired. But just as a monarchy is the best form of government in theory with the proper type of monarch looking out for the welfare of minorities and not letting them be overrun by the majority, so group medicine, when properly conducted by a properly minded group of skilled physicians, would be difficult to excell. However, this does not mean that group medicine cannot be practiced by a group of doctors many or all of which are not good enough to stand on their own legs but who need some group or insurance plan to keep them from starving. Neither does it mean that group medicine cannot be practiced as a racket by unscrupulous physicians. It simply means that a group of physicians working together can accomplish more for a patient at a low cost than can be accomplished by physicians working singly.

Under group medicine as practiced by groups independent of the Government, there is no reason why

specialties, in addition to official drugs, would not be used. Since the large majority of the new products would come from the research laboratories of the manufacturers, and the physicians working in these groups would be detailed the same as other physicians, the amount of specialties sold should not vary much from the sales under present conditions. Also the physicians working with these groups would be anxious to keep abreast of the latest medical developments so that their records would be good and so they could restore the health of their patients with the least effort and discomfort.

However, the sales through the wholesalers and retailers might drop sharply if these groups dispensed their own drugs in the manner in which the Kaiser groups do. Under group medicine as practiced by Kaiser, the patient does not have any expense for physicians, hospital, drugs, or anything else. Therefore the drug products are all bought by the groups and dispensed free to the subscribers to the plan who pay 50 cents per week. Naturally a spread of this kind of medicine would depreciate the value of trade-marks when they are applied to official products. Ethical houses, therefore, would have to continue their detailing as well as strengthening their advertising directly to the public in an attempt to influence these groups to use their products in preference to those of unknown manufacturers. It therefore appears that a very widespread change in medical practice to the group plan would work its greatest change, not in the type of drugs that are used, but rather in the distribution of these drugs. Direct sales to physicians would step up sharply, and distribution through wholesalers and retailers—both chain and independent—would decrease by a corresponding amount. Doubtless there might be a change toward increased use of injection type of products and a lessened use of oral products as patients visited their physicians more often because of the lack of fee for each visit.

As to Dr. Fishbein's statement that the trend toward socialized medicine is not the doctors' worry but rather that of the pharmaceutical manufacturers, it does not seem like sound reasoning. Dr. Fishbein says that no matter what plan of medical practice is evolved, the physicians must administer it. But by the same token, no matter what plan of medical practice is evolved, the doctors will have to have drugs to administer it. If the practice of medicine is taken over by the Government, then the doctors certainly will be in no better position than the drug manufacturers will be since both will be working primarily for the Government.

It's All Mixed and Ready to Swallow

—Darling in the New York Herald Tribune. Reproduced with permission.

There is no question that both the physicians and the drug manufacturers of the country must fight any plan to turn the practice of medicine over to the Government. Such a change would only result in lessened ambition on the part of the doctors, and lessened incentive on the part of the drug manufacturers. There is no question that both the physicians and the drug manufacturers would suffer, but the public at large would suffer also in the type of medical treatment that they would receive. The difficulty with medical practice under the present system is that the very wealthy and the very poor who go to clinics are most likely to receive the best treatment. The large majority of the people of the country—known as the middlemen—flounder around hopelessly trying to find out what is wrong with them and to have it corrected. The large majority of these patients are bewildered after going from doctor to doctor, specialist to specialist, and hospital to hospital.

The change in the attitude of the officials of the A. M. A.—whether forced upon them or not—is a healthy sign. It means that a natural development that is for the good of both the practice of medicine and the public is to be unhampered. It is now up to the physicians of the country to try and meet this condition with sound plans for setting up more effective groups for the practice of medicine. The sooner this happens, the better it will be for all concerned.

POLYHYDRIC ALCOHOL ESTERS IN COSMETICS

By CHARLES S. GLICKMAN

Esters of fatty acids and polyhydric alcohols have been the subject of increasing interest in the pharmaceutical and chemical industries during the past several years. This latter period has witnessed singular developments in the industrial application of these compounds as well as in the creation of more efficient methods of commercial preparation.

Technically, these compounds may be simply described as the products of reactions between polyhydric alcohols and monocarboxylic aliphatic or fatty acids. Typical examples of these aliphatic compounds are, respectively, glycerol and the glycols; of the latter acids, stearic, oleic and lauric (acids). While intercombinations of several types are possible between both classes of the components stated, this discussion will be confined mainly to instances wherein only one of the available hydroxyl groups is replaced by a carboxyl group with its attendant radical. This state is briefly described as the *mono-ester* of the alcohol. The remaining hydroxyl groups of the alcohol are left intact or unreacted.

A rather broad view of the multitude of uses to which such esters can be applied will doubtless serve to introduce the more specific applications in the form of formulas. Generally, the liquid esters such as the glyceryl mono oleates or those of the glycols can be successfully employed as softeners or plasticizers for gums, resins and rubber. When properly prepared, they are neutral or slightly acid in reaction and noninjurious to colors, fabrics or fibers (animal, vegetable or mineral). Their solubility in petroleum solvents makes them of value to manufacturers or blenders of dry-cleaning or degreasing compounds. They are also suitable as emulsifiers in furniture or automobile polishes. As bases for soapless shampoos, lathering or neutral shampoos, bath oils, superfatted liquid soaps or textile scouring agents or assistants, they are also excellent.

The solid esters such as the stearic acid derivatives are well fitted to serve as cosmetic emulsifiers in creams, etc. They may be readily substituted for beeswax when obtained in a state of high purity. They are also fine stabilizers for aqueous solutions or suspensions of various types and likewise serve as good lubricants for wool, cotton, leather and paper. The use of these solid compounds in small quantities yields a superfatted effect in hard toilet soaps thereby creating smoother acting, less alkaline and creamier lathering products. Their utilization in cosmetic preparations is of extreme interest as they can be incorporated in different products with differing effects. Since 5-15% dispersions in water (prepared by dissolving the desired amount of ester in boiling water and stirring till cold) form stable creamy non-decomposing emulsions or suspensions, these "bases" may be used as "starting points" for many products. As these esters are stable emulsifiers for oils, fats and waxes, etc., any of the latter may be readily dispersed in a neutral state. The fact that these emulsifiers are not materially affected by inorganic or organic dilute acids or other electrolytes with the exception of alkalies (with which they further react) makes them of value in preference to emulsifiers not possessing these valuable properties. The aforementioned aqueous dispersions have superlative protective colloid properties making them desirable for suspensions of pigments or powders (powder bases of the greaseless type). These esters can further serve as replacements for the natural and unavailable vegetable gums as suspending agents in the light of their resistance to bacterial decomposition and the elimination therefore of any preservatives or antiseptics from the finished composition. Lastly, they may be used directly in concentrations of over 15% as vanishing creams, brushless shaving creams, greaseless pharmaceutical bases, etc.

Esters of the glycol ethers type where stearic acid is the base or any other solid fatty acid is a component, make fine bases for vanishing creams or lotions as the presence of the "carbitol" is the ester promotes increased skin penetration. The liquid alcohol ether esters such as the laurate or the oleate make fine shampoo bases which are comparable in performance with the so-called "wetting agent" types. Their addition to liquid soaps, etc. decreases the alkalinity and makes them smoother in their action as well as less harsh on the skin. In effect they serve as excellent superfatting agents.

Typical formulations illustrating the wide variety of preparations possible with certain of these com-

pounds are to be found among the following compositions:

Cosmetics

1—Cold Cream (Greaseless)

Diethylene glycol monostearate	50 lbs.
Paraffin (125-27 A.M.P.)	75 "
White Petrolatum	45 "
Mineral Oil (light technical, white)	5 gals.
Water	27 "
Potassium Carbonate	12 oz.

2—Cold Cream (Greaseless)

Diethylene glycol monostearate	11 lbs.
Paraffin (as above)	8 "
White Petrolatum	6 "
Mineral Oil (as above)	20 "
Water	75 "
Borax	1 "

3—Cold Cream (Greaseless)

Diethylene glycol monostearate	8 lbs.
Mineral Oil (as above)	3 "
Paraffin (as above)	15 "
Petrolatum (as above)	7 "
Stearic Acid (3X)	1 "
Borax	2 "
Water	100 "

Procedure: The following procedure is the same for all three of the preceding formulas. All of the components except the water and the alkali are heated together in a suitable vessel and slowly agitated until uniform at a temperature of 90° C. The alkali is dissolved in the water and the solution heated to the same temperature as the wax and oil solution. The oil solution is then slowly added to the water solution with continued slow agitation until the product is cool enough to pour. Perfuming materials may be added before the product has become cool enough to pour.

4—Vanishing Cream

Glyceryl monostearate	120 lbs.
White Mineral Oil	20 "
Glycerine	30 "
Spermaceti	50 "
Water	780 "
Propyl-aminobenzoate	0.1 "

Procedure: All of the ingredients are mixed and heated to a boil for about 1 minute. The mixture is then stirred till cool enough to pour.

5—Hand Lotion

Glyceryl monostearate	3.5 lbs.
Water	86.3 "
Menthol	.1 "
Glycerin	5.1 "
Alcohol	5.0 "

Procedure: The menthol is dissolved in the alcohol. The ester and the water are boiled together and then the glycerin stirred into the mixture. The solution is then allowed to cool with stirring to about 45° C. and the alcohol added. The entire mixture is then stirred till cold.

6—Foundation Cream

Glyceryl monostearate	3.0 lbs.
Stearic Acid (3X)	20. "
Diethylene Glycol or "Carbitol"	3. "
Gum Karaya	.25 "
Water	73.75 "

Procedure: Heat the ester and the glycerin to 75° C. Mix. Dissolve the gum in the water. Add the glycol or carbitol and heat to 90° C. Mix. Add this solution to the ester solution and stir slowly till cool.

7—Brushless Shaving Cream

Glyceryl monostearate	5 lbs.
Glycerin	2 "
Lanolin	2 "
Stearic Acid (3X)	16 "
Water	92 "
Mineral Oil	3 "

Procedure: Dissolve the ester and the glycerin in the water and heat to 60° C. Melt the other ingredients together and heat to 60° C. also. Add the latter to the water solution. Stir till cool.

8—Non-Alkaline Soapless Shampoos

Any of the following esters may be utilized for this purpose. Alcohol and perfume may be added as desired:

Glyceryl Mono-oleate
Glyceryl Monoleurate
Diethylene Glycol Mono-oleate
Diethylene Glycol Monolaurate
Carbitol Mono-oleate
Carbitol Monolaurate

9—Greaseless Cold Cream

Glyceryl Monostearate	120 parts by wgt.
Mineral Oil	60 " " "
Petrolatum	60 " " "
Lanolin	30 " " "
Almond Oil	30 " " "
Propyl-p-aminobenzoate	1 " " "
Water	650 " " "
Glycerin	30 " " "
Olive Oil	20 " " "

Procedure: All the ingredients are heated together to about 65-70° C. and stirred slowly till cold.

10—Liquid Cream

Glyceryl Monostearate	5 parts by wgt.
Diethylene Glycol or Glycerin	10 " " "
Mineral Oil	2 " " "
Water	85 " " "

Procedure: Melt and mix the ester, glycerin and oil. Heat to 75° C. Heat the water to 95° C. and add with slow stirring. Continue stirring till cool.

(Continued on page 395)

Veterinary Products and Related Animal Preparations

By M. A. LESSER

SUPPLYING veterinary medical products has grown to be a quite important industry. Indeed it might well be said that providing drugs and medicines to protect the health and treat the ailments of livestock has nearly reached the proportions of "big business." In 1938, market analyses showed that the retail sales of animal and poultry remedial products had amounted to over $81,000,000. By 1941, this figure exceeded $100,000,000.[1] No doubt 1943 statistics will show a constant increase in the size of this market.

Some idea of the potentialities inherent in this field is evidenced by the fact that in the United States there are some five million livestock owners with approximately 200 million head of cattle, horses, swine, sheep and goats. To serve the needs of these vast herds, there are about 8,000 veterinarians in private practice, with about 4,000 more engaged in various public services connected with animal health.[2] With the continuous growth of veterinary medicine, some five hundred persons are graduated annually from eleven veterinary colleges.[3]

In addition to the advice of these trained experts in animal diseases, stock owners and farmers are constantly kept up-to-date through informative leaflets and bulletins issued by Federal and State agricultural departments and experiment stations. Hence it is quite common practice for farmers to purchase and apply many remedies and chemical drugs themselves.

Since animals and humans have many diseases in common, preparations for their treatment are very similar in composition. Thus the treatment of animal ailments requires the use of antiseptics, dermatologic preparations, anthelmintics, cough and cold preparations, expectorants, purgatives, digestives, tonics, sedatives, liniments and a host of other typical pharmaceutical drugs and chemicals. Biologicals play a large role in the prophylaxis and treatment of animal disorders, perhaps more so than is the case with humans. Moreover, the field for vaccines, sera and related biological products is constantly being widened.

In using these several chemicals, drugs and biologicals, government experts stress the importance of clearly distinguishing between the purpose for which these different products are intended. Some are merely diagnostic, with their sole value as means of detecting and differentiating diseases. Others are prophylactic or immunizing, while still others, perhaps not as many as could be desired, have curative properties.

Because most new drugs are first tested on animals before being applied to the treatment of human illness, it is not surprising that many of the more recent medical discoveries should find similar uses in the practice of veterinary medicine. The sulfonamide drugs fall naturally into this category. Although the use of sulfa drugs for animals has not progressed quite as far as human use, they do find wide use in the treatment of certain animal disorders.

In animal therapy, satisfactory response to the administration of sulfa drugs has been obtained in certain acute conditions such as mastitis of streptococcal and staphylococcal origin in cows and sheep, contagious pneumonia in young bovines, and pneumonia, pleurisy and sinussitis of streptococcal origin in the horse. Sulfas are also used in streptococcal-caused joint-ill or navel-ill in lambs and in coliform cystitis in cows. Though tried in the treatment of distemper of dogs, the results, as yet, are doubtful. As in the human, the prime consideration is to secure and maintain a high concentration of these bacteriostatic drugs in the blood stream. Hence, initial doses are large, followed at short intervals by lower doses to maintain the requisite high sulfonamide levels in the system.[4]

Parasitic diseases loom very large in livestock disorders. Internally, worms of various types are the responsible organisms. Externally, insects and their larvae account for many animal illnesses and deaths. Flies are, of course, the worst offenders, but lice, fleas, ticks, and mites all contribute to the sickness and mortality rate among farm and range animals. Hence, preparations to prevent or treat the injuries caused by these insect parasites are among the most important of the products required by the livestock owner.

Of these several winged or crawling pests, probably none are more destructive or loathesome in their effects than are blowflies, whose maggots infest living flesh. The worst offender is the primary screwworm fly. According to government estimates 85 per cent of all livestock losses in the Southwest are caused by this insect, and in the past it has made livestock production impossible in some areas.[2]

Prevention is the first consideration in any discussion of methods to avoid the damage caused by these and other insect parasites. Sanitation in and about barns and cattle pens are of prime importance and the use of fly traps and poison baits is advocated. In addition to these measures, insect repellents are employed where feasible. One simple repellent for stable and horse flies consists of:[5]

Powdered naphthalene	26.5 Gm.
Kerosene	100.0 cc.
Hard soap	40.0 Gm.
Water, to make	1000.0 cc.

This repellent, said to be stainless and non-gumming, may be used in a spray gun or otherwise applied for use on both cattle and horses.

In their discussion of insect repellents, Thomssen and Doner[6] pointed out that as far back as 1899, pine tar, generally in solution in petroleum oil bases, was recognized as a repellent for flies on livestock. Because such preparations render sprayed animals unsightly and impart an odor to milk, they have given way to more pleasant and efficient preparations. New repellent materials are being developed constantly and among the more promising are those based upon the action of thiocyanate compounds and phenoxychloroethyl ether. Retenoids and their derivatives are also being used in cattle sprays. The advantage of these newer materials lies in the fact that they serve not only as repellents but as insect killing agents as well. In addition to these oil-base cattle sprays, formulas for products to be emulsified with water have also been developed.

A most important consideration in the prevention of infestation by screw-worms or other blowfly maggots is the prompt treatment of cuts or wounds whether accidental or the result of such operations as marking, branding, shearing, castrating, dehorning or docking. Workers at the U. S. Department of Agriculture[2] have developed a highly efficient formula especially suitable for this prophylactic purpose. Known as Formula MS62, the preparation has the following composition; all parts by weight:

Diphenylamine (technical)	3.5 parts
Benzol (90% commercial)	3.5 parts
Turkey-red oil (sulfonated castor oil, pH 10 or neutral)	1.0 part
Lampblack (Germantown)	2.0 parts

The resulting mixture has the consistency of thin paint and is applied to the wounds with a small paint brush. It not only quickly kills screwworms or other fly maggots infesting a wound, but also gives protection against reinfestation for several days.

In other parts of the world where sheepraising is an important industry, preparations for treating "blow-fly-struck" sheep have received considerable attention and effective formulas have been developed.[7, 8] Because so much of the national economy has been tied up with the production of wool and mutton, Australians have long been intensely interested in the subject of preventing fly strike in sheep. Back in 1935, their Council for Scientific and Industrial Research[9] evolved a dressing which proved highly effective in ridding sheep of fly infestation and which was called glycerine diboric because of its ingredients. Preparation for war made glycerine difficult to obtain, so that in 1939 it was necessary to search for a compound based on more readily available materials. The following composition, retaining boric acid as the main larvicidol and astringent component, was developed and found satisfactory:

(*Continued on page 457*)

Keeping Posted

(*Continued from page 385*)

"Now that organized medicine has approved health insurance, it has the plain duty of encouraging experimentation in all promising forms of practice. This means that factories, labor unions, cooperatives and private-doctor groups should be permitted to test plans which may not fit the pattern of the local medical society but which may reveal something constructively important. The only kind of control that can be tolerated is the kind that assures the best medical care at the lowest cost."

Wholesale Volume Up

DRUG sales are currently running twenty-five per cent ahead of last year, and if the present rate is continued for the year, the volume for 1943 will show a gain of more than eighty per cent over 1939, according to Nelson A. Miller, of the Department of Commerce. Mr. Miller, speaking at the recent N. W. D. A. meeting, estimated dollar sales by wholesalers in the first six months of this year at eighteen per cent over the corresponding period of 1942. If this increase continues throughout the year, wholesale drug volume will total more than $1,500,000,000, or ninety-two per cent more than the 1939 figure.

The shortage of supplies, manpower, and transportation facilities have strengthened the wholesaler's position in the industry, according to Mr. Miller. While there are no statistics at hand, evidence available indicates that the retailer is now buying much more of his supplies from the wholesaler than before the war. In the ten year period prior to the war manufacturers greatly increased the proportion of goods sold through their own branch offices.

Preference on Lab. Chemicals

PREFERENCE ratings on deliveries of reagent chemicals for laboratory use were reassigned by the WPB through issuance of Preference Rating Order P-135 as amended Preference AA-1 is assigned to deliveries of any reagent chemical to any laboratory to which a serial number has been assigned under Preference Rating Order P-43, governing laboratory equipment, and to any laboratory owned and operated by the Army or Navy. Preference Rating AA-2 is assigned to deliveries of any reagent chemical to any laboratory lacking a serial number under Order P-43 or to a distributor or producer of reagent chemicals. Order P-135 formerly assigned a blanket rating of AA-2X to reagent chemicals for laboratories.

The amended order defines "laboratory" as meaning "any person engaged in the business of carrying on scientific or technological investigation, testing, development or experimentation, to the extent that he is so engaged. The term includes research laboratories, production control laboratories, clinical laboratories and instructional laboratories. It does not include any person to the extent that he is engaged in the manufacture of products for commercial sale, even though the place in which the products are manufactured may be called a laboratory."

Supplementary Order P-135-a also was amended to exempt from certification the delivery to or acceptance of delivery by a laboratory of not more than 10 per cent of the quantity of reagent chemicals in any period which are exempt from specific authorization under the small order clause.

Preference Rating Orders P-135 and P-135-a as amended, issued September 28, 1943.

Lanolin Ceiling Prices

SPECIFIC dollars-and-cents ceilings for sales by primary distributors and wholesalers of lanolin, were established by the OPA in a separate price regulation.

The new ceilings reflect prices currently quoted by primary distributors and wholesalers and were "spelled out" mainly for uniformity and to make clear to the trade the proper maximums that apply to their sales. Ceilings for producers of lanolin, which is a fat produced from sheep's wool, are established in another regulation—MPR 53 (Fats and Oils), and retailers' ceilings continue as established by the General Maximum Price Regulation.

Both U. S. pharmacopoeia anhydrous and the hydrous lanolin are covered by the new measure, MPR 474, which became effective October 4, 1943.

Since the primary distributor purchases from the producer at substantial discounts from producers' maximums, the maximum prices designated in the new regulation for sales by primary distributors are substantially the same as the producers' ceilings specified by Regulation 53. Chief purpose of the primary distributor is to distribute relatively small lots of the product to the wholesale and retail trade.

Sales are to be made f.o.b. New York or St. Louis, depending on which gives the purchaser the lowest net delivered cost.

Maximum prices for sales by wholesalers reflect a 15 per cent mark-up over costs on large quantity sales and a 30 per cent mark-up over cost on the two smaller container sizes, which is in line with the pricing method provided for wholesalers of certain fine chemicals by MPR 353 and in line with prices currently quoted by wholesalers.

George Jay's Drug Store

THE other day we received a very interesting booklet from our old friend George Jay. Many in the industry will recall George who was a sales executive with Squibb, and later with Foster-Milburn, leaving that company to return to Shenandoah, Iowa, to take personal charge of his father's drug store which George had been operating for some time by remote control.

The booklet, with a four-color front cover, shows pictures of George and his father who died in 1938. Also shown are views of the beautiful large store, many of its departments, George's assistants, and his truck. Drop George a line and ask him for a copy, he will be glad to hear from you and equally glad to send you a copy of the booklet.

Plastics Allocated

POLYETHYLENE, a plastic material used in manufacturing wire and cable, and polyethylene scrap were placed under allocation by the War Production Board through issuance of Allocation Order M-348, effective October 1.

The order provides that no person shall use, deliver or accept delivery of polyethylene or polyethylene scrap after October 1 except as specifically

(*Continued on page 395*)

WEST AUSTRALIAN ESSENTIAL OILS

By DR. ERNEST S. GUENTHER
Chief Research Chemist, Fritzsche Brothers, Inc., New York, N. Y.

(Concluded from September issue)

CHEMICAL COMPOSITION

The chemistry of West Australian sandalwood oil is by no means fully elucidated, especially in regard to the nature of the sesquiterpene alcohols present in the oil. The diverging results, obtained in earlier and in more recent investigations, may probably be explained by the fact that lately, the West Australian producers have modified their process of distillation. They fractionate the crude oil in vacuo in order to obtain commercial oils with constants which resemble, as much as possible, those of the long established East Indian (*Santalum album* L.) oils. The following constituents have so far been identified in West Australian sandalwood oil:

bisabolene

The oil contains only a few per cent of this sesquiterpene which was identified in the lowest boiling fractions as bisabolene trihydrochloride (m. p. 79.7 to 80.5° C.) by the Schimmel chemists[15].

sesquiterpene alcohols $C_{15}H_{24}O$

santalol

The same investigation also led to the conclusion that the alcohol fraction of the oil contained santalol, or a very closely related alcohol, and one or several sesquiterpene alcohols most of which do not react with phthalic acid anhydride.

Scholz[16] reported that it is possible to isolate from West Australian sandalwood oil, with phthalic acid anhydride, about 60 per cent primary and about 15 per cent secondary sesquiterpene alcohols. The primary alcohols contain α-santalol, as can be proved by oxidation with potassium permanganate and chromic acid. The resulting tricycloeksantalic acid, and the santalal, were identical with the corresponding oxidation products of α-santalol from East Indian sandalwood oil, 90 per cent of which consisted of primary alcohols.

α-and β-fusanol

Sanjiva Rao and Sudborough[17] isolated from West Australian sandalwood oil two alcohols, which they claimed to be isomerides of α- and β-santalol as occurring in the East Indian oil and which they named α-and β-fusanol. According to these workers they were probably secondary bicyclic sesquiterpene alcohols containing two double bonds.

The fusanols give phenyl urethanes and acid phthalates.

α-fusanol:
B. P. 146 to 149° at 5 mm. pressure.
d_{15}° 0.9775
αd_{25}° +5.7°
nD_{25}° 1.5060

β-fusanol:
B. P. 153 to 155° C. at 5 mm. pressure.
d_{15}° 0.9753
αD_{25}° +26°
nD_{25}° 1.5100

Simmons[18] doubted the contention of Sanjiva Rao and Sudborough because the oil investigated by them possessed an optical rotation of less than −1° while the present commercial oils are of higher laevo-rotation.

Years ago Penfold[19] had isolated from the oil of *Santalum lanceolatum* a new sesquiterpene alcohol $C_{15}H_{24}O$ which was later more closely investigated by Bradfield, Francis, Penfold and Simonsen.[20] These workers found that the alcohol was primary, that it could easily be identified as allophanate (m. p. 114 to 115° C.) and that, upon oxidation with chromic acid, it gave small quantities of an aldehyde $C_{15}H_{22}O$ (m. p. of the semicarbazone 151 to 152° C.). Bradfield, Francis, Penfold and Simonsen named this alcohol lanceol.

lanceol

EMPLOYMENT

As pointed out the wood, as such, is employed in China as temple incense. The essential oil finds application in pharmaceutical preparations. The West Australian producers claim that their sandalwood oil is superior to the oil distilled from *Santalum album* L. in British East India. It contains all the recognized medicinal properties of a urinary antiseptic and, in addition, possesses the advantage of being more tolerable, not causing so much disturbance to the patient. According to several medical authorities, the usual digestive troubles experienced are less severe when the Australian sandalwood oil is dispensed, even after prolonged use. The same authorities noted that Australian sandalwood oil does not cause any backache.

The British Pharmacopoeia recognizes now Australian sandalwood oil official under the name of *Oleum santali Australienus*, as distinguished from *Oleum*

(*Continued on page 452*)

BRAZILIAN MENTHOL

CONSIDERABLE mystery continues to prevail as to the extent to which this market can look to Brazil for relief from the serious shortage of menthol. Some menthol has come in from Brazil, forward contracts have been written with producers there, but for the most part these contracts have still to be legitimized by the arrival of initial shipments.

So much speculation prevails regarding Brazilian menthol that one large manufacturing consumer, in a position to correlate available information, remarked that from reports received, his estimate of production there would be anywhere from 600 pounds to 600,000 pounds.

Other predictions to the effect that Brazil will produce about 200 tons of menthol from the coming crop are being discounted here by well informed factors. In order to produce such a quantity some 1,300,000 pounds of peppermint oil would be needed and it does not appear reasonable to suppose that such an increase in oil production could be possible from one year to the next.

The United States has been producing peppermint oil for over 100 years and this year's production is not in excess of 885,000 pounds. It does not, therefore, seem logical to assume that Brazil, who only a few years ago was producing negligible quantities of peppermint oil, could step up production to the extent indicated above.

The full story of Brazilian menthol production must still await further information and clarification. We do know, however, that production in Brazil is under the control of Japanese colonies and that the Japanese shippers are just as mysterious and unpredictable in their business relations with the United States as has always characterized menthol trading with Japan.

Information has just reached the Department of Commerce on the coming season's mint program in Brazil and this does clarify the latter somewhat. It is reported that production of mint oil in Brazil during the 1943-44 season may be seven times as large as that of the 1942-43 season.

About 1,700 alqueries (.02471 acre) are being planted to mint and as the average yield is 200 kilos of oil per alquerie, a total production of 340 metric tons is expected this year. This compares with 1942-43 production of approximately 50 metric tons of mint oil and 20 metric tons of menthol crystals.

Trade reports said that a member of the Instituto de Pesquisas Technologicas at Sao Paulo stated that almost all the oil is the Japanese type of Mentha arvensis, and consists of 75 per cent to 80 per cent menthol.

On the basis of an 80 per cent yield of menthol the production of menthol crystals from 748,000 pounds of peppermint oil would be 598,400 pounds or the equivalent of 7,480 cases of 80 pounds each. This is indeed an encouraging production when it is considered that American requirements of natural menthol do not exceed 4500 cases per annum.

Because of the current demand for menthol from the United States, and present price levels here, it is conceded that the production of mint oil and menthol is now the most profitable extractive industry in Brazil. This must lead to further increases in production but, in the meantime, import factors here would welcome more definite indications of contract fulfillment.

The way the matter stands is that several dealers here have sent their representatives to Brazil to buy menthol. One of them came back in the belief that he had purchased a sizable quantity. However, some other importer got the material, and the first importer had to notify the people to whom he had sold the material that it was not forthcoming. However, this importer is said to be expecting a second lot in November. This simply represents the old Japanese custom of getting one buyer to outbid the other even though the material is supposed to be firm to the original bidder. Some wonder how certain buyers are going to make out with the ceiling prices in this country.

All in all, the situation is most confusing and it will be some time before it is straightened out to the satisfaction of importers and consumers. Meantime, all that importers and consumers can do is to hope that the Brazilian production gets to the point at which this country will be able to get sufficient menthol for its needs.

Polyhydric Alcohol Esters

(*Continued from page 389*)

11—Day Cream

Mineral Oil—Heavy	100 lbs.
White Petrolatum	200 "
Water	3000 "
Glycerol Monostearate	240 "
Paraffin Wax	450 "

Procedure: Melt the waxes and oils together at 65° C. Heat the water to the same temperature and add slowly to the hot oil wax mixture with slow stirring. Keep the temperature constant during the addition of the water. Stir till cool.

12—Burn Salve

Benzocaine	20 lbs.
Water	680 "
Picric Acid—20% aqueous solution	100 "
Diethylene Glycol Monostearate	70 "
Oleic Acid	20 "
Lanolin	30 "
Olive Oil	50 "
Cetyl Alcohol	30 "

Procedure: The ester, oleic acid, lanolin, olive oil and cetyl alcohol are heated together until melted. Stir thoroughly. Heat the water to about 65° C. and add with continued stirring. Add the picric acid solution and then the benzocaine and stir till cool.

Keeping Posted

(*Continued from page 392*)

authorized by WPB or under the exceptions allowed by the order. A supplier seeking authorization to deliver polyethylene in any month must apply on Form WPB-2946 (formerly PD-601) by the 20th of the month preceding that in which delivery is planned. Applications for delivery in October must be made as soon as practicable.

A person seeking authorization to use or accept delivery of polyethylene in any month must apply on Form WPB-2945 (formerly WPB-600) by the 15th of the preceding month. Application for use or acceptance of delivery in October must be made as soon as practicable.

Lacquer Hair Pads

USE of lacquer hair pads by women to keep their hair in place has resulted in a widespread outbreak of severe neck and ear inflammations, according to the American Medical Association. The association warns against the use of the pads until it can be determined what is responsible for the outbreak. The Food and Drug Administration has ordered manufacturers of the pads to recall all shipments and to stop manufacture. A preliminary investigation by the FDA indicated in the case of at least one product the irritative action resulted from the use of a new gum in the manufacturing formula.

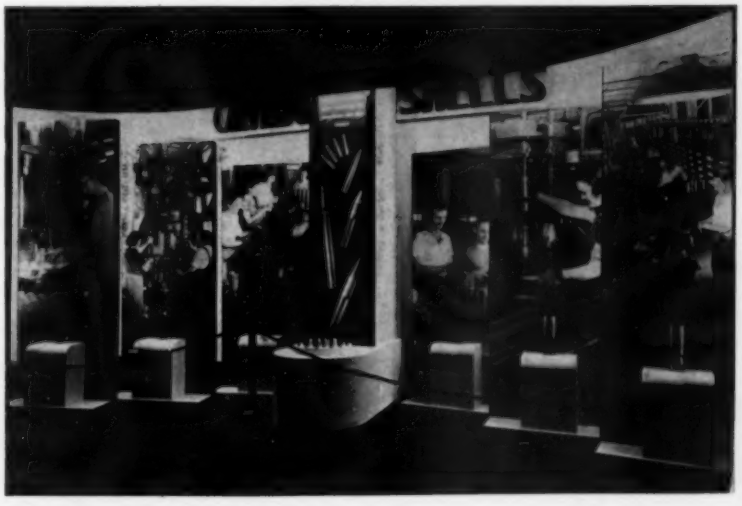
Solvents Under Allocation

TWO important solvents, acetone and diacetone, were placed under allocation control by the War Production Board through issuance of Allocation Order M-352. These materials are required in large quantities for protective coatings, as solvents for acetylene gas and in the production of rayon, plastics, explosives, medicinals, photographic films, rubber chemicals.

The order provides that each supplier, seeking authorization to make delivery of acetone or diacetone in any month to any person who has filed with him Form WPB-2945 or a certificate of intended use, must file Form WPB-2947. A customer applying in any month for not more than 350 pounds of acetone or not more than 415 pounds of diacetone files a purchase order with the supplies.

No person may accept delivery in any month from all suppliers of more than 1,750 pounds (5 drums) in the aggregate of acetone, or more than 2,075 pounds (5 drums) in the aggregate of diacetone except on specific authorization from WPB on Form WPB-2945. Applications must be filed by the 10th of the month preceding that in which delivery is sought. To accept delivery in any month from all suppliers of more than 350 pounds but less than 1,750 pounds of acetone or of more than 415 pounds but less than 2,075 pounds of diacetone, a customer must file with each supplier by the 10th of the preceding month a certificate of intended use as provided in the order.

A supplier seeking to use acetone or diacetone in any month regardless of quantity must file application on Form WPB-2945 by the 10th of the preceding month.



This section of the Armstrong Cork Company's downtown employment office and war products display says to the visitor, in effect: Here is the job of making cartridge cases and shells—will you take it? Blown-up photos of the manufacturing operations in the Armstrong factories form a background for actual samples of shells and cartridge cases in various stages of production.

LOOK FARTHER AHEAD

Sheffalloy TRADE MARK REGISTERED TUBES

SHEFFIELD PROCESS

Sheffalloy Tubes are now in Greater Demand than Ever!

THE army and navy, with highest priority ratings, are using ever greater quantities of New England SHEFFALLOY TUBES. The extra measure of protection these tougher tubes can give makes them ideal containers for essential pharmaceutical and medicinal ointments, even when shipped and used in the world's most rigorous climates.

That's why it becomes more and more difficult to give our customers the kind of service they need and we would like to give. Although production has broken all records, it is still not enough for prompt shipments on low or unrated orders. So . . . LOOK FARTHER AHEAD than ever . . . anticipate delays in your shipments, and remember the extra toughness and protection only Sheffalloy Tubes can give makes them worth the waiting *if* we are slow to ship.

NEW ENGLAND COLLAPSIBLE TUBE COMPANY

3132 SO. CANAL STREET, CHICAGO • NEW LONDON, CONN. • W. K. SHEFFIELD, 500 FIFTH AVENUE, NEW YORK
THE WILCO COMPANY, 6800 McKINLEY AVENUE, LOS ANGELES, CAL.

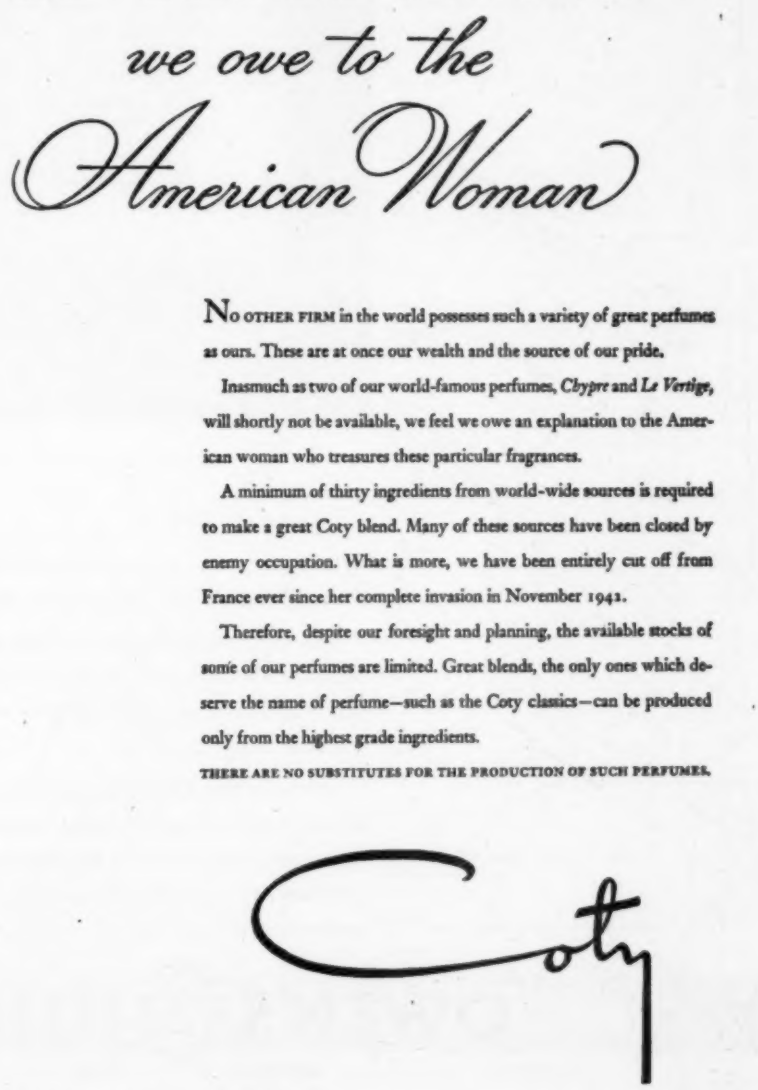
MERCHANDISING NEWS and PACKAGING NOTES

Shortage Advertising

The accompanying Coty ad which broke in newspapers and magazines throughout the country a few weeks ago attracted considerable attention and widespread comment. The unkindest cut of all came from those who insisted that advertising of this kind could only result in causing a run on Coty perfumes in general and Chypre and Le Vertige in particular. Those who argued in this vein pointed out that these two numbers have not been particularly popular for some years and that if Coty had stock on these no better way could be found to move it than by advertising of this sort. Others in the trade pointed out that they too had their shortages but have kept mum about them just so that they would not create a run on a fast diminishing supply.

Others pointed out that with business the way it is now, nobody, and Coty least of all, needed to do anything to spur it on. The trick is rather to keep some vestige of goods on the retailers' shelves through Christmas, and severe allocations have been resorted to in order to obtain this result. Besides some sample shopping for these two odors readily disclosed that little or none was available for purchase.

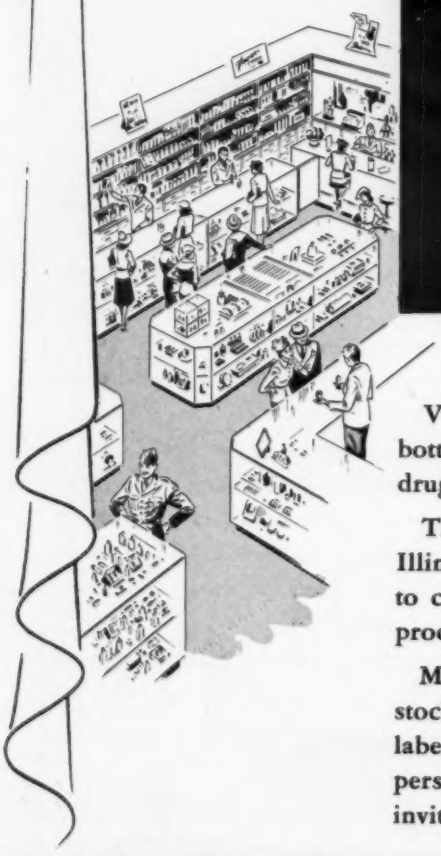
Another interesting bit in the copy is the statement that "we have been entirely cut off from France ever since her complete invasion in November, 1942," with its intimation that the necessary oils and aromatics were available to a certain extent and at a certain expense, up to that time, which, of course, is not news but up to now hasn't been said publicly.


AN EXPLANATION
we owe to the
American Woman
NO OTHER FIRM in the world possesses such a variety of great perfumes as ours. These are at once our wealth and the source of our pride.
Inasmuch as two of our world-famous perfumes, Chypre and Le Vertige, will shortly not be available, we feel we owe an explanation to the American woman who treasures these particular fragrances.
A minimum of thirty ingredients from world-wide sources is required to make a great Coty blend. Many of these sources have been closed by enemy occupation. What is more, we have been entirely cut off from France ever since her complete invasion in November 1942.
Therefore, despite our foresight and planning, the available stocks of some of our perfumes are limited. Great blends, the only ones which deserve the name of perfume—such as the Coty classics—can be produced only from the highest grade ingredients.
THERE ARE NO SUBSTITUTES FOR THE PRODUCTION OF SUCH PERFUMES.
Coty

ALL THE STORE'S *a Stage*

for Products in Duraglas stock bottles

Illustrates: New IS oblong which is manufactured in nine sizes from ¼ to 16 oz.



VERSATILITY is easily accomplished for the Duraglas stock bottles you see today on widely-separated counters and shelves of drug, department and variety stores.

Through the science of label design, specialists of the Owens-Illinois *Packaging Research Division* groom these stock containers to create any one of a dozen different "atmospheres" which the product may require.

Made by the Duraglas technique of glass making, Owens-Illinois stock bottles are brilliant, uniform, strong. They deserve proper labeling. Any user of Duraglas containers who has not achieved personality and merchandising appeal with his present labeling is invited to call on us.

OWENS-ILLINOIS

TOLEDO, OHIO

More Post-War Stuff

Re-evaluation, Research, and Re-Education are the three R's of post-war planning according to an interesting and down-to-earth booklet filled with interesting case histories which has been produced by Wildrick & Miller, Inc., New York advertising agency which is well known in this field through its drug, chemical and cosmetic accounts. According to the booklet the agency has clients that early converted most or all of their production to a war basis. These clients' normal channels of trade were out for the duration. Practically all of these companies thus engaged have re-evaluated their products for post-war markets. They have instituted aggressive research, made comprehensive market studies, kept their trade names alive.

"Our part in these activities has been one of which we are proud. Some of the work published or released we can show you. Much of it is confidential. How long the war may last no one knows. Victory probably will be sudden. But we do know that it's time for every executive with unfinished post-war planning to look ahead and re-evaluate his products—double his company's efforts in research—and finally broaden the re-educational job that should be done prior to Victory.

"To wait until the war is over will be costly, for the orderly conversion from war-time to peace-time work is a gigantic organization job. Re-evaluation —Research—Re-education, which we have termed the 3 R's of post-war planning, make a simple but sound formula for *today*."

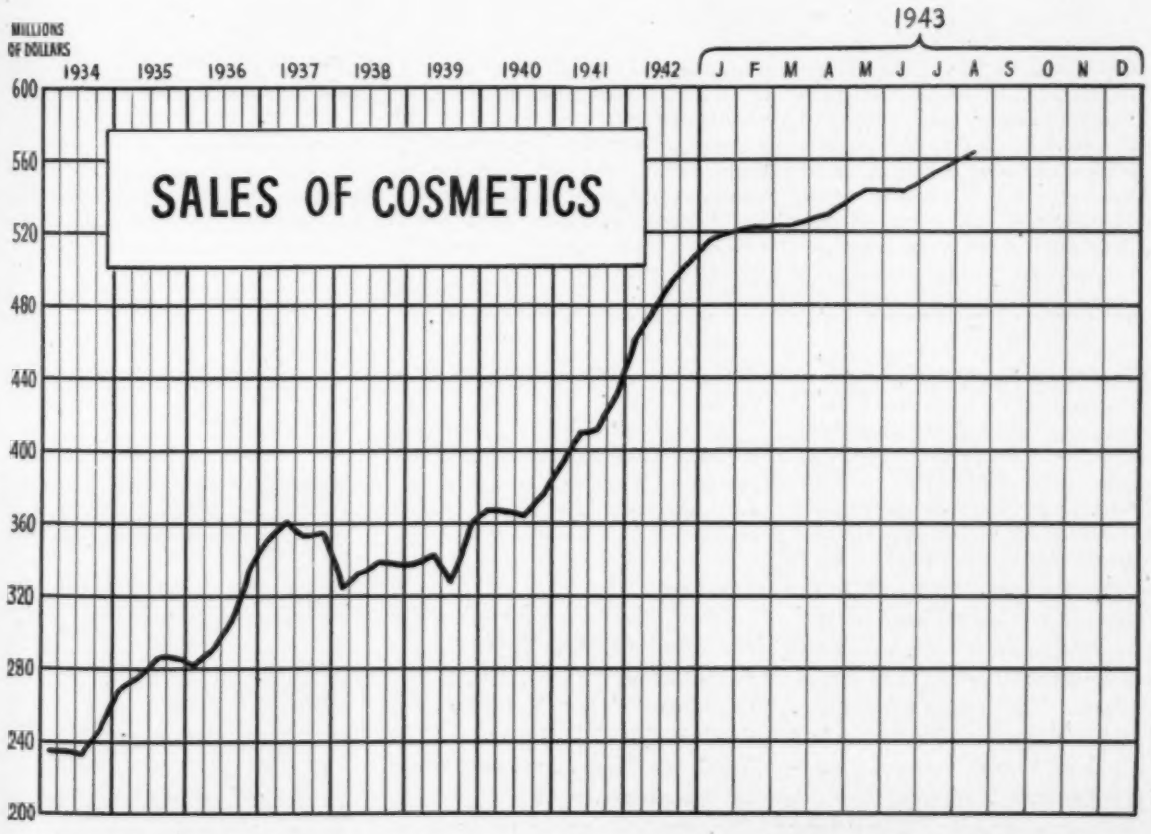
Survey of Beauty

Familiar names of cleansing creams are leaders in the 13th Survey of Beauty made by Modern Magazines. Pond's leads, being the preference of 25.7 per cent, followed by Lady Esther with 15.4 per cent and Woodbury with 14.7 per cent. In the deodorant field Mum leads Arrid by only 4 per cent with 36.9 per cent preferring Mum and 32.8 per cent preferring Arrid.

Leading brands of face powder were given as Woodbury 15 per cent; Coty, 14.3 per cent; Max Factor 11.6 per cent and Lady Esther 10.1 per cent. Pacquin continues to be the most favored hand cream, being the choice of 28.5 per cent of the users and hand lotion preferences are Jergens with 44.6 per cent; Hinds with 16.2 per cent and Italian Balm with 7 per cent.

Since the survey was made in March the leg make-up figures are not too significant but at that time Miner's was the choice of 46.1 per cent of the market. For the first time Tangee takes second place in lipsticks with 11.1 per cent to Factor's 12.9 per cent. In nail polish Cutex leads with 40 per cent to Revlon's 23.8 per cent and Dura-Gloss' 16.9 per cent. Among the perfumes Evening in Paris was the choice of 34.5 per cent and Coty followed with 10.6 per cent.

In tooth paste it is Colgate, 36.9 per cent; Ipana, 22.5 per cent and Pepsodent 19.8 per cent. In tooth powder it is Dr. Lyon's 38.8 per cent; Pepsodent 19.3 per cent; and Colgate 15.5 per cent.



Sales of cosmetics for the twelve-months period ended August 1943 totaled $563,155,000, an increase of $9,198,000 over the $553,957,000 reported for the twelve months ended July 1943.

The Cosmetic Trend

Encouraged by the very satisfactory results of their promotions of occupational cosmetics for use of war workers, buyers of cosmetics are looking for other stars to hitch to the wagon of their cosmetic counters. They won't stop short even of a little poaching upon the territory of other store departments, if it helps their own counters.

Prospects are good for a renewal of a drive for cosmetic aids to the home gardener with the return of next summer. Home-makers' cosmetics may be sliced off the general occupational group of cosmetics, in the expectation that a separate drive for the women who do their own house work will double the pressure behind the occupational appeal. "Closet" cosmetics may come in for immediate attention.

Danglers, sachets, drawer lacquers, deodorizing and odorizing salts are the stand-bys of the line. However, buyers think that it will lay itself to expansion if cosmetic manufacturers will try hard enough. Moth repellents and a few similar items are sold in household departments. Their stature in the eye of the customers might be raised by making them part of a cosmetic display. The question is asked also whether they really are the "last word" in closet protection and luxury in their present form. Some buyers suggest a group of new items to fill the gap between the strictly utility articles and the cosmetics.

At any rate, this interest in cosmetic articles for non-personal use deserves study. It fits a present day need.

Another promotional idea, talked of right now as a stunt rather than anything else, concerns "dry" cosmetics. Assembled upon the counter, powders (shampoos, face), compacts (rouges, etc.), salts, cakes and others might make a good attraction and push sales (temporarily) above normal levels. More important, but still very much in the future and risky for development unless it is done with an eye upon the long distance effect, might be travel cosmetics. The line, as it is seen, would comprise dry, solid and semi-solid cosmetic articles, sold exclusively for travel use and not to compete with the normal type of cosmetic. Buyers believe that they could make good use of cosmetics, specially designed for the use of tourists, including mosquito repellents and similar preparations to fill in during the dull months in mid-summer. This may be worthwhile looking into as a post-war development.

Buyers say that they have covered themselves satisfactorily for the Christmas season. Orders, now placed, serve the routine needs of mid-winter. They are at an average 10% higher than last year.

Reader-Forum Cosmetic Study

A beauty survey made by Fawcett among its readers indicates that about 81 per cent of those replying use cologne or toilet water, 83 per cent bath powder, 31 per cent bath salts, and 26 per cent bubbling bath preparations. Lentheric, Evening in Paris and Hudnut are the three brand preferences in cologne or toilet water; Shulton, Cashmere Bouquet, and Coty are leading bath powders; Bathasweet and Wrisley are leaders in bath salts; while Sutton, Evening in Paris and Bathasweet lead in bubbling bath preparations, according to this survey.

Sixty-seven per cent of those replying use perfume with Evening in Paris leading with 36 per cent, followed by Coty with 19 per cent and Hudnut with 6 per cent.

About 88 per cent of those replying use a face cream with Ponds leading (23 per cent); Woodbury second (15 per cent) and Lady Esther third (12 per cent).

Ceramics

Ceramics have been so much in the packaging news lately that we thought we'd check for you and get up to date on just what the supply situation is in that field. Mr. C. H. Vanderlaan of the Vanderlaan Tile Co. is authority for the following resume.

He says that they are now producing very beautiful glazed caps in 18, 20 and 22 mm., No. 410 finish and 28 mm. in No. 400 finish. He adds that these caps are not experiments, that they are being run continuously and that several hundred thousand of them have been delivered. They are available in a variety of colors, some of which, particularly blues and yellows are curtailed.

He emphasizes that ceramic caps are not inexpensive but are in fact generally higher in price than those generally used. There is one, however, which they are now producing, a ceramic ball cap, 18 mm. No. 410 finish, which he says should average about the same price as ball caps in more familiar materials.

He admits that they have gone through a rather long period of experimentation and that they have been disappointed in their inability to produce caps in the larger diameters but that they know their limitations now and are prepared to take care of various closure and container needs in the drug and cosmetic field.

Although we are not at liberty to discuss names, we do know and, in fact, have commented here, upon the interesting container jobs now being produced in ceramics, both bottles and jars in the cosmetic field. These, naturally, are all custom jobs up to this point nothing being available in stock containers so far as our information goes.

Powder Closure

A good workmanlike closure is this two-piece cork and wood job which has been developed by Dodge Cork. The larger section or orifice reducer is, of course, fastened permanently to the shoulder of the container while the smaller stopper is used as the consumer closure. Although this was designed as a tooth powder closure it could easily be adapted for any free-flowing drug or cosmetic powder.

CALL D & O

First for Dependability

To quote the recent experience of a D & O customer—"We know we can always depend on D & O. You always 'come through'."

"Coming through" has been a major D & O policy for over 144 years—in troubled times as well as in normal times.

Why not benefit . . .

Call D & O today.

Dodge & Olcott Company

180 VARICK STREET • NEW YORK, N. Y.

BOSTON • CHICAGO • PHILADELPHIA • ST. LOUIS • LOS ANGELES

Plant and Laboratories, Bayonne, N. J.

D O

BE SURE *You Get Your* MONEY'S WORTH!

THE ONLY way to buy quality raw materials is to deal with a firm who sells nothing else.

The quality of your own finished product is too important to risk spending your good money on anything but the finest, most dependable raw materials.

Products which are available to the perfumer at reasonable prices:

OIL OF WHITE CEDAR
OIL OF CEDAR LEAF AMERICAN
Exceptionally Fine Quality
OIL OF BALSAM FIR AMERICAN
PHENYL ETHYL ALCOHOL
IONONE A. B.
IONONE METHYL
HYDRATROPIC ALDEHYDE
PARA METHYL HYDRATROPIC ALDEHYDE
CYCLAMAL
INDOL

Requests for samples on your firm's letterhead and further information will be promptly furnished.

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

Aromatics Division

GENERAL DRUG COMPANY

644 Pacific St., Brooklyn, N. Y.

9 S. CLINTON STREET, CHICAGO

1019 ELLIOTT ST., W., WINDSOR, ONT.

Boudoir or Beach!

. . . you'll see fine products packaged in gleaming, graceful Maryland Glass. Yet, attractive as are the Maryland Glass designs created in pre-war days, they will be followed by even finer "designs for selling" after Victory has been won. In planning your attack on the post-war market, consider the many sales advantages of eye-catching Maryland glass bottles and jars.

MARYLAND GLASS CORPORATION, BALTIMORE, MD. . . New York: 270 Broadway. . Chicago: Berman Bros., 1501 S. Laflin St. . . St. Louis: H. A. Baumstark, 4030 Chouteau Ave. . Memphis: S. Walter Scott, 435 S. Front St. . . . Kansas City, Mo.: Aller Todd, 1224 Union Ave. . Cincinnati: J. E. McLaughlin, 401 Lock St. . . San Francisco: Owens-Illinois Pacific Coast Co.

MARYLAND

Bottles and Jars

CALIFORNIA SENDS YOU

The World's Finest Orange Oil

OVER THE YEARS you save money and get better flavor that lasts longer when you use . . . EXCHANGE OIL OF ORANGE.

Ask our Jobbers for Samples

FRITZSCHE BROTHERS, INC.
76 Ninth Avenue, New York, N. Y.

DODGE & OLCOTT COMPANY
180 Varick Street, New York, N. Y.

Distributors for: **CALIFORNIA FRUIT GROWERS EXCHANGE PRODUCTS DEPT., ONTARIO, CALIF.**

Producing Plant:
Exchange Orange Products Co., Ontario, California

Copyright 1943, California Fruit Growers Exchange, Products Dept.

Exchange
OIL OF
ORANGE
U. S. P.

Courtley Miniatures

Courtley, Ltd., has reproduced its Courtley men's toiletries in miniature. The new, four-ounce container is an exact replica of the regular Courtley package with the exception of the horse-head closure which is made of matching plastic in the small line. The miniature line is available in various sets and combinations. It includes every item in the regular line except the shave-bowl, but this package has been replaced by the shave-mug, a re-usable container made of porcelain. Priced at $1, the Courtley miniatures are now in direct competition with other popular priced men's preparations, most of which hold four ounces for $1. Aside from the price angle, the four ounce size is preferable for men in the service.

Cheramy's "Frolic"

Cheramy, thus far satisfied with its distribution in drug stores, is now going after the department stores with its new "Frolic" line, which includes three sizes of perfume, toilet water, talcum powder, and dusting powder. Frolic is a gay, fresh and clear fragrance which the name suggests. The perfume will retail for 2 ounces $6.50, 1 ounce $3.50, and a debutante size at $1.10; the talcum is 50 cents; toilet water, $1.75, and dusting powder $1. Frolic is attractively packaged with a colorful countryside motif. The line will be launched about November 15 through department and drug stores. For holiday selling, three sets have been ensembled. While the perfume is priced about the same as Cheramy's April Showers, there is no size smaller than the $1.10, whereas the April Showers line carries a 28 cent purse vial, which has been the most popular size, quite naturally, in drug stores. Few department stores, if any, carry the Cheramy line with the possible exception of the April Showers talc. The Frolic line on the other hand will be launched as a complete ensemble and merchandised in class department stores as well as drug stores.

Rouge Box

Harry Broder has developed an all acetate rouge box with what is described as a wedge-lock closure. This is available in the inch and one-half size in standard colors. The closure seems to be very effective and is formed when small knurled ridges inside the cover lock up against corresponding wedge formations inside the base. This makes for a very simple two-piece job, without threads or hinges.

New Perfumes

New perfumes continue to appear here and there. Parfumerie de Raymond is introducing "Persian Lamb," the very name of which is suggestive of sophistication, softness and warmth. The package too, conveys the feeling of the perfume. The box is covered with paper simulated to look like luxurious, black Persian lamb. The bottle sets in a base of fuchsia satin. There are four sizes.

Georg Jensen has entered the perfume picture with "Flora Danica." It is named after Jensen's famous Royal Copenhagen porcelain dinner service, which was made for Catherine the Great of Russia and which portrays the wild flowers of Denmark. The perfume is beautifully bottled and boxed and comes in three sizes: ½ ounce, $6.50; 1 ounce, $12; and 2 ounces $20. It will be sold to department stores throughout the country, exclusively through Lunning, Inc., wholesale branch of Georg Jensen, Inc.

The firm of Prince de Bourbon and Dorelis, Inc., New York, has announced the creation of a new perfume, Flame d'Amour. The perfume is contained in an imported half ounce European bottle shaped like a rose that screws into a special top on a three tier platform.

Mary Chess has done a grand job of incorporating five popular fragrances, Gardenia, Carnation, Tapestry, White Lilac and Strategy in solid perfume. It is cleverly packaged in a tiny, sterling silver snuff box and retails at $4.50.

A division of a cosmetic house which skyrocketed to fame and fortune a few years back with a clever packaging of a bath line, will launch four new American perfumes. The interesting angle is the price. It will be priced at $3.50 for an ounce. A brief survey of the market reveals no direct competition in price with the exception of the new Cheramy "Frolic" which will sell for $3.50 an ounce, one of three sizes. The general idea is to feature a perfume which doesn't claim to have any other background but American, at a price which isn't competitive. More next month when names and details can be divulged without jumping release dates!

LABORATORIES

There should be no compromise with QUALITY . . . . . and in these trying times when morale is so important KOLMAR continues to maintain its exacting standards.

ROUGE » POWDER » LIPSTICK

Manufacturers of private label brands only.

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Quinby Building, Newark, N. J.

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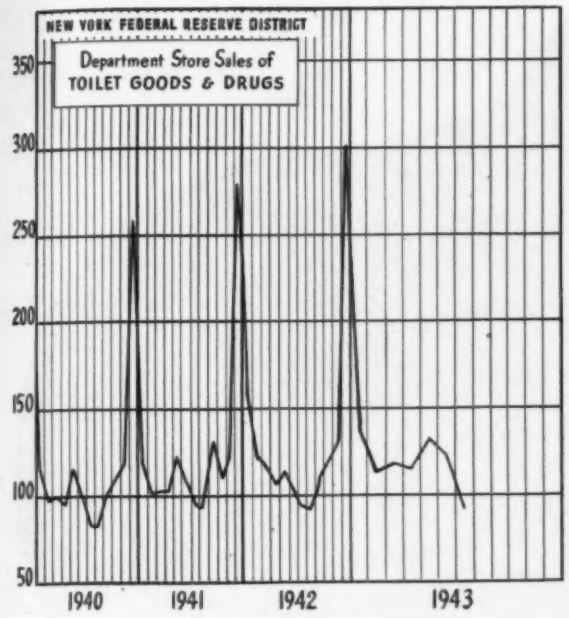
Mr. Warren Curry,
2504 Alton Road, N. W., Atlanta, Ga.

Mr. Norman Kole,
980 Merchandise Mart, Chicago, Ill.

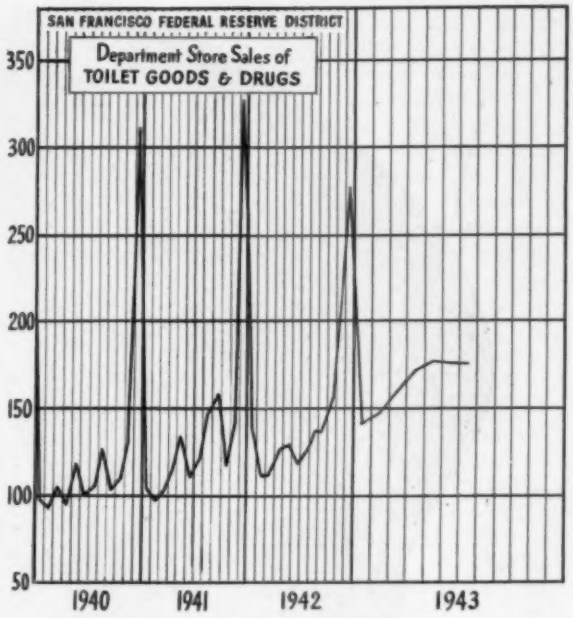
Mr. R. F. G. Byington,
1260 N. Western Ave., Los Angeles, Cal.

Mr. Richard F. Spicker,
419 West Fifth St., Cincinnati, Ohio

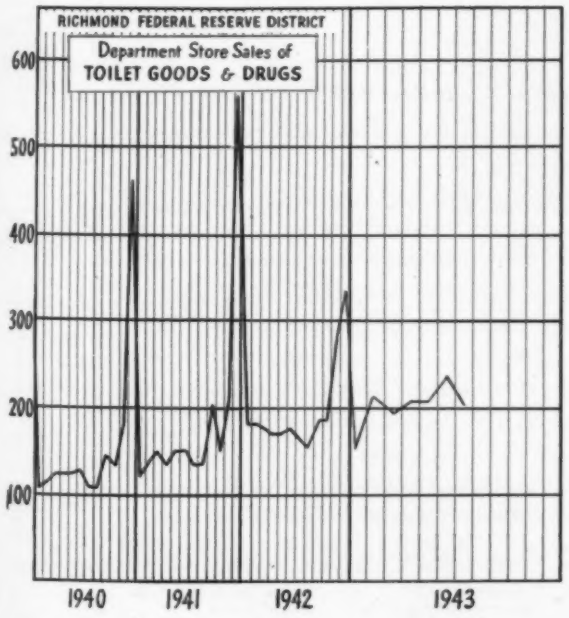
Kolmar Milwaukee·Newark



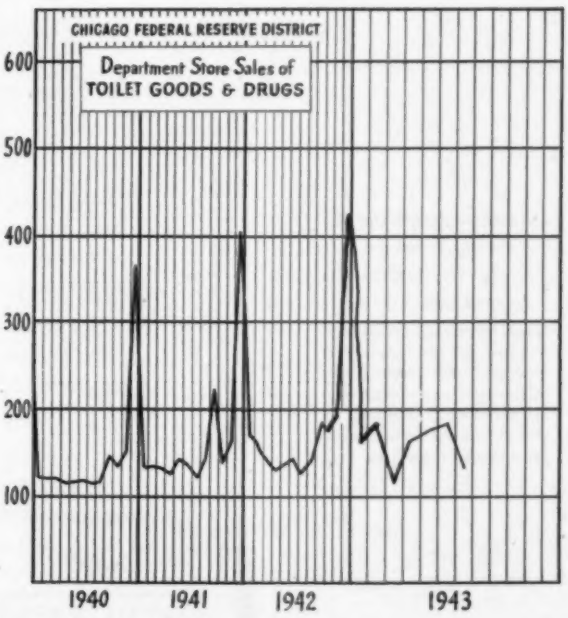
Sales of toilet articles and drug sundries by department stores in the New York Federal Reserve District were about the same in July 1943 as they were in July 1942. This corresponds to unadjusted index numbers of 93.7 for July 1943; 122.9 for June 1943; and 91 for July 1942.



Sales of toilet articles and drug sundries by department stores in the San Francisco Federal Reserve District were 50 per cent greater in July 1943 than in the same month of 1942. This corresponds to unadjusted index numbers of 176.4 for July 1943; 177.2 for June 1943; and 117.6 for July 1942.



Sales of toilet articles and drug sundries by department stores in the Richmond Federal Reserve District were 33 per cent less in July 1943 than in the same month of 1942. This corresponds to unadjusted index numbers of 203.8 for July 1943; 236.9 for June 1943; and 160.5 for July 1942.



Sales of toilet articles and drug sundries by department stores in the Chicago Federal Reserve District were 6.1 per cent greater in July 1943 than in the same month of 1942. This corresponds to unadjusted index numbers of 131.9 for July 1943; 182.4 for June 1943; and 125.8 for July 1942.

CHLORAL HYDRATE U. S. P.

$CCl_3CH(OH)_2$

Mol. Wt.: 165.39

Standard Form: Crystals.

Specifications: Colorless, dry transparent crystals; assay 99.5% min.; solubility in water (1:1), complete; water solution neutral to litmus; conforms to U. S. P. test for carbonizable impurities and chlorides.

When quality is measured in cc's . . .

. . . there is no substitute for the skill and judgment of the men in control.

This is particularly true of the production of fine chemicals and pharmaceuticals even though few industrial operations are governed more completely by automatic controls.

That's why Monsanto control laboratories are staffed by chemists trained in the latest analytical techniques . . . and also thoroughly grounded in the everyday but extremely important fundamentals of good laboratory practice.

And that's why *you* can depend on *controlled* quality in *every* shipment of *every* Monsanto pharmaceutical that reaches your plant. MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, St. Louis, Missouri.

MONSANTO CHEMICALS

SERVING INDUSTRY...WHICH SERVES MANKIND

Monsanto pharmaceuticals of *controlled* quality:

Acetanilid U. S. P.
Acetophenetidin U. S. P.
Acetyl Salicylic Acid (Aspirin)
Benzoic Acid U. S. P.
Caffeine U. S. P.
Dicalcium Phosphate
Chloral Hydrate U. S. P.
Chloramine-T U. S. P.
Glycerophosphates
Magnesium Phosphates
Methyl Salicylate U. S. P.
Phenol U. S. P.
Phenolphthalein U. S. P.
Phosphoric Acid
Potassium Ammonium Phosphate
Saccharin U. S. P.
Salicylates
Sodium Benzoate U. S. P.
Sulfanilamide U. S. P.

NEWS

Companies

Wyeth, Inc. Formed

The formation of Wyeth, Inc., as one of the nation's largest ethical drug houses through the grouping of seven companies now operating in the pharmaceutical, biological and nutritional fields, has been announced by American Home Products Corp., of which the new company will be a wholly-owned subsidiary.

HARRY S. HOWARD

FRANK F. LAW

The companies which will comprise Wyeth, Inc., include: John Wyeth & Brother, Inc., of Philadelphia, 83-year-old manufacturer of pharmaceuticals; S.M.A. Corp. of Chicago and Mason, Mich., producer of products for infant nutrition; the Reichel Laboratories, Inc., Kimberton and West Chester, Pa., one of the largest producers of blood plasma for the armed forces and manufacturer of biologicals, the Bartos system of allergenci protein diagnostics and a pioneer in the development of penicillin; Gilliland Laboratories, Inc., Marietta, Pa., manufacturer of a comprehensive line of biologicals; Petrogalar Laboratories, Inc., Chicago, maker of Petrogalar; General Biochemicals, Inc., Chagrin Falls, Ohio, manufacturer of vitamins, and the Bovinine Co., Chicago products for anemia.

Reichel Laboratories, now one of the nation's largest producers of penicillin, has been authorized by the Government to spend $532,831 on new facilities to increase the production of this drgu.

Harry S. Howard will head Wyeth, Inc., as president. Frank F. Law, president of John Wyeth & Bro. Inc., will be vice-president in charge of the Pharmaceutical Division of Wyeth, Inc. Clyde C. Marshall, chairman of the S.M.A. Corp. and president of Petrolagar Laboratories, Inc. and the Bovinine Co., will be vice-president in charge of the Nutritional Division. Dr. John Reichel, president of Reichel Laboratories, Inc., will be vice-president in charge of the Biological Division.

Mr. Howard was born in Anamosa, Iowa, in 1891 and has spent his entire business life in the drug industry. He was graduated from the University of Chicago in 1915 and worked first as a salesman and district manager for a producer of biological products. In 1924 he joined the Petrogalar Laboratories. This was shortly before the formation of American Home Products Corp. and Petrogalar later became the first ethical unit in the group. Mr. Howard started as district sales manager of Petrogalar and worked his way up to vice-president in charge of sales in 1932. In 1933 he was named assistant to the president of American Home Products Corp. The following year he was elected vice-president and January 1, 1933 became president. Mr. Howard plans to give up his American Home Products post to devote his entire time to the direction of Wyeth, Inc.

Mr. Law was born in Wilkes-Barre, Pa., in 1895. At the age of seventeen he went to work for a druggist in Edwardsville, Pa., serving the four-year apprenticeship required by state law. Then he went to Temple University where he took his degree in pharmacy in 1917. During World War I he served in the Navy as chief pharmacist mate. He joined John Wyeth & Bro. immediately after he was demobilized. Mr. Law worked his way up through all departments of the company and was named general manager in 1934, three years after it was acquired by American Home Products. He became president in 1936.

It has also been announced by Alvin G. Brush, chairman of the board, that Knox Ide has been elected president and Walter F. Silbersack executive vice-president and general manager of American Home Products Corp.

Mr. Ide has been executive vice-president of the corporation and Mr. Silbersack has been vice-president in charge of all advertised products. Their promotions follow the election of Harry S. Howard, former president of American Home Products, as president of Wyeth, Inc. Mr. Ide has been associated with American Home Products Corp. since 1936 when he was elected a director, and Mr. Silbersack, an authority on merchandising, has been an executive of American Home Products and constituent companies for twenty years.

Maltine Moves Offices

The executive offices of the Maltine Co. were moved October 1 to 745 Fifth Ave., New York.

Esme of Paris

Esme of Paris has moved to new and larger quarters at 9 East 62nd St., New York.

ORBIS "AQUASPRAY" PERFUME OILS
(REQUIRE NO ALCOHOL)

ORBIS "AQUASPRAY" PERFUME OILS are recommended for the preparation of sprays for deodorizing and purifying foul air in homes, institutions, hospitals, theatres, etc. They require no alcohol.

By merely mixing 3 ounces of Aquaspray Perfume Oil and 3 ounces of Formaldehyde Solution U.S.P. with sufficient water to make 1 gallon, a spray in permanent milky emulsion form is obtained at a finished cost of less than 38 cents per gallon.* This is a real profit producer.

ODORS AVAILABLE

Apple Blossom	Lavender	Persian Bouquet
Bouquet Kashmir	Lilac	Pineneedle
Bouquet #550	Locust Blossom	Rose
Carnation	Mint	Syringa
Gardenia	Narcisse	Violet
Honeysuckle	New Mown Hay	Wintergreen
Jasmin	Orange Blossom	

PRICE

$2.00 per pint $14.00 per gallon

★Based on the gallon price of "Aquaspray."

A request on your letterhead will bring further details and sufficient sample for 1 quart of finished spray.

ORBIS
PRODUCTS CORPORATION

215 PEARL STREET, NEW YORK · FACTORY & LABORATORY, NEWARK, N.J.

CHICAGO 660 North Dearborn St.
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BOSTON 89 Broad Street
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Water Soluble Gums	Waxes	Cosmetic Raw Material	Fruit Flavors
Thymol	Stearic Acid	Oleo Resins	Food Colors
Aromatics	Essential Oils	Perfume Bases	Quince Seed
Rice Starch	Zinc Oxide French	Olive Oil	Irish Moss

Ungerer Celebrates 50th Year

Ungerer & Co., New York, are celebrating the fiftieth anniversary of the founding of the business. Founded by William P. Ungerer in 1893, the firm has had a steady expansion and an outstanding reputation. The founder of the firm was born in Basle, Switzerland, in 1833, and after a brief but thorough training in Paris and the south of France, he came to this country becoming chief perfumer for Colgate & Co. in 1872. Joined by his son, Willim G. Ungerer in 1895, Mr. Ungerer, Sr., incorporated his firm in 1901, the year in which his younger son, Frederick H. Ungerer, who is now the president of the concern joined him. Mr. Ungerer, Sr., died in 1907 at the age of 74 leaving the concern in the hands of his two sons.

The elder son, William G. Ungerer naturally took command and the firm continued its expansion and its excellent reputation for fine products and fair dealing grew. In 1930, William G. Ungerer passed away at the age of 61.

Building on the firm foundation laid by his father and brother, Frederick H. Ungerer has been president of the firm during the years of its greatest expansion. Aided by Kenneth G. Vorhees, and other members of his staff, Frederick H. Ungerer has broadened the scope of the firm and brought it further along the road upon which it was so well started by William P. Ungerer and William G. Ungerer.

Toohy Returns to Squibb

John H. Toohy has relinquished his duties as head of the soap, drugs and cosmetic section of the chemical and drug price branch of the Office of Price Administration, to return to E. R. Squibb & Sons, New York, as manager of distribution. Mr. Toohy assumed the position with OPA on a temporary basis last March.

No successor to head the soap, drugs and cosmetic section has been appointed and it will now be under the direct supervision of Joseph D. Coppock, head of the chemicals and drugs branch.

Jean Vivaudou Buys Building

Jean Vivaudou Co., Inc., New York, has purchased a three-story building at 146 West 63 St. The building has about 22,000 square feet of floor space and will be used for the manufacture and distribution of cosmetics and pharmaceutical supplies.

Above is a shot of Lt. Charles Bryan in India. Lt. Bryan left Fritzsche Brothers to serve in the U. S. Army.

Milk of Magnesia Booklet

"The Production of Milk of Magnesia and Pharmaceuticals from Hydro-Magna" is the title of a new booklet being distributed by Whittaker, Clark & Daniels, Inc., New York. The booklet deals with the origin and manufacture of hydro-magna from sea water; the production process, equipment, formula and procedure for making milk of magnesia. This procedure is amplified by a technical report on tests, proportions, viscosity and control. Graphs and tables illustrate the various tests. Copies are available upon request.

R. Peltz Co. Moves

R. Peltz Co., Philadelphia, sales representative for a number of companies dealing in oils, drugs, chemicals and waxes, has moved its offices to Suite 995 Drexel Building, 5th and Chestnut Sts., Philadelphia 6. The telephone numbers remain the same: Lombard 6359 and Main 7440.

Among the companies represented in Philadelphia by R. Peltz Co. are: P. R. Dreyer, Inc., Paul A. Dunkel & Co., Inc., John Powell & Co., Sherwood Refining Co., Inc., and Whittaker, Clark & Daniels Inc.

Shirley Labs. Move

Shirley Laboratories, industrial chemists serving the food and drug industries, has been moved to 471 Kent Ave., Brooklyn, N. Y. where it enjoys new and greatly enlarged laboratory and pilot plant facilities.

Florsheim Joins Falleck

Ludwig I. Florsheim is now associated with Fallek Products Co., 149 Broadway, New York, manufacturer, importer and exporter of fine chemicals. Mr. Florsheim has been connected with the chemical trade, both here and abroad, for the past twenty years. He recently resigned his position with Tuteur & Co., Inc.

Norman Dahl Joins Vick

Norman Dahl, formerly managing director for Lehn & Fink and Dorothy Gray in Toronto, Canada, has become associated with Vick Chemical Co., New York. He will specialize in new cosmetic items for Vick.

Florasynth Moves in Detroit

Announcement is made by Dr. William Lakritz, executive of Florasynth Laboratories, Inc., that the Detroit headquarters and new offices are now located at 6342 Cass Ave., under the management and supervision of L. W. Bogner. With these new offices, Florasynth once again augments its facilities for service on a broader scale to its clients throughout the territory. The move is expected to offer increased benefits in the closer cooperation with clients and in the analysis of customer problems relating to raw materials and production in the present war-affected markets and in the possibilities for post war developments.

Standard of Indiana Presents

Standard Oil Co. of Indiana has shipped 600 Christmas parcels to employees in the armed forces who are overseas. Parcels are now being prepared for 2,400 other employees in military service at domestic bases.

Merck Over Bond Quota

Employees of Merck & Co., Inc., Rahway, N. J., went over the top on their quota for the Third War Loan Government Bond Drive on September 24. This was one of the first employee groups to make such a report. The quota of $300,000 was passed as of that day. The bonds subscribed for will be designated for the purchase of two ambulance planes and possibly additional equipment for the Armed Forces.

Com. Solvents Expands Staff

Commercial Solvents Corp., Terre Haute, Inc., has increased the personnel of its research, sales, technical service and production divisions. Appointments to the research department include Dr. Ralph E. Bennett, research biologist, formerly with Joseph E. Seagram & Sons; Dr. Alfred R. Stanley, research bacteriologist, formerly instructor of bacteriology in the Medical School of West Virginia University; Alwin Espenshade, mycologist, Purdue University.

J. F. Taylor, formerly with the Ansul Chemical Co. has joined the Chicago sales force of the corporation. E. F. Arnold and A. C. Hopkins, Jr. are new members of the technical service division. Mr. Arnold has been with the New York sales force of the company for nine years, while Mr. Hopkins was technical supervisor for General Chemical Co.

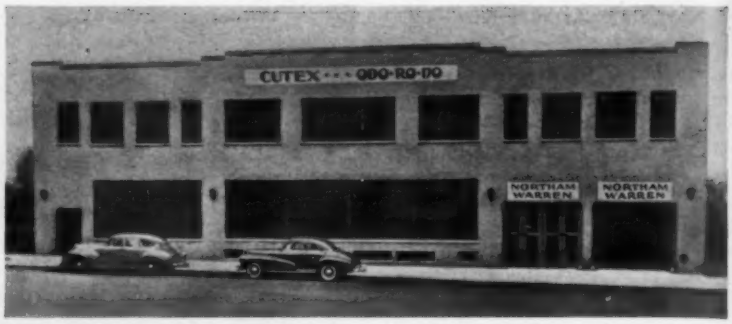
The staff of the production division has added four new production supervisors: Robert Harker from Iowa State University; John D. Wells from Purdue University; Donald Larson, formerly with Hercules Powder Co.; and Olin Herner of the engineering department of Commercial Solvents Corp.

Recent additions to the engineering staff include project engineers Duncan Thomas, Jr. and Nicholas A. Collora. Mr. Thomas was previously chemical engineer with the U. S. Rubber Co. Mr. Collora was mechanical engineer with the M. W. Kellogg Co.

National Oil Expands Staff

National Oil Products Co., Harrison, N. J., has announced that its Biological Assay Laboratories (a sub-division of Nopco Vitamin Laboratories) has expanded to the point where the staff now includes twenty-four qualified biochemists, biologists and technicians.

Personal changes in this staff, which remains under the direction of A. E. Briod, technical director of Nopco Vitamin Laboratories, have been announced. Dr. Kenneth Morgareidge, head of Nopco's Biophysical Laboratory for several years, and associate head of the Nutritional Laboratory for the past year, has now been appointed head of the combined Nopco Biological Assay Laboratories. At the same time, Dr. John R. Foy has been appointed assistant head of the same laboratories to fill the vacancy created by the resignation of F. D. Baird, former associate head, who has left with Nopco's best wishes.



New Northam Warren factory at 155 Grove Street, White Plains, which is one of the four new buildings taken over by Northam Warren's cosmetics division, as a result of expanding war production in the company's Stamford plant. Northam Warren has completed the transfer of its production departments for Odorono and Cutex manicure preparations, to White Plains, where about 200 people will be employed. The sales and executive offices remain at Stamford.

Helfrich Adds to Staff

Helfrich Laboratories, New York, has announced two important additions to its staff of key employees. Harold F. Senn, who for the past twenty-three years has been associated with the manufacturing departments of Elizabeth Arden in both the New York and Mexican factories, has been made production manager of the New York Helfrich plant. Mr. Senn started with Arden at the age of sixteen when the company had less than a dozen laboratory employees. Now, twenty-three years later he brings to Helfrich an unusually full and well-rounded background of experience in cosmetic production.

Another appointment that Helfrich is happy to announce is the return of Matilda Brendel. She was away from the company a little more than a year and now returns to become assistant to Frant H. Heidbreder, executive vice-president and general manager.

New Cummer Plant

The Cummer Co. Division of Sterling Drug, Inc., has purchased a plant in Brattleboro, Vt. and will move its manufacturing plant there from Bedford, Ohio, about December 1. Harold B. Thomas, Sterling vice-president, in making the announcement said that Brattleboro was chosen because of its "post-war possibilities." The company will employ about 150.

Among the executives who will move from Bedford to Brattleboro are J. N. Cooke, divisional vice-president; A. Haymarch, plant superintendent; O. J. Nickel, sales manager; H. L. Evans, chief accountant; J. M. Pratt, purchasing agent and office manager; and C. L. Denhard, assistant sales manager.

Emery Industries Offer Products

Emory Industries, Inc., Cincinnati has announced the availability of two new derivatives of animal fatty acids. The first of these, Azelaic Acid, is described as a dibasic aliphatic acid, having a nine-carbon chain with carboxyl groups at each end. Its melting point is given as 96 deg. C. Several examples of its reactions are given, laying emphasis upon its ability to form soft alkyd resins with glycerine and other suitable polyhydric alcohols. It is said that in general, the esters of Azelaic Acid have higher boiling points than those of fatty acids of corresponding molecular weights. This characteristic is pointed to as suggesting their use as plasticizers.

The second development is described as a series of low molecular weight, monobasic acids, in which the unusual nine carbon acid, Pelargonic, predominates. The esters are said to apply to the oil modification of alkyd resins with which they are quite compatible.

Prichard and Constance Elect

The following officers were elected at a special meeting of the board of directors of Prichard & Constance, Inc., New York; president, Arthur W. Tosh of Needham, Mass.; vice-president, Ernest H. Williams of Staten Island; and secretary-treasurer, Walter H. W. Luberts, Brooklyn, N. Y.

Dr. Koonce Joins Innis Speiden

Innis, Speiden & Co., New York, has announced that Samuel D. Koonce, who received his Ph.D. in physiological chemistry from Ohio State University in June, has become associated with the company. Mr. Koonce will be located at the Boyce-Thompson Institute for Plant Research, Inc., Yonkers, N. Y.,

Measured purity helped bring them home

More of the wounded *live* to come home again.

That is a fact of *this* war and a tiding of joy for millions of families.

On all the battlefronts, medical corps have at their disposal products *unknown* a few years ago—products of great healing power. Wounded who would have been counted *lost* in the last war are being saved in this one.

Credit is due to the research work of leading pharmaceutical houses. Their laboratories have furnished the products and made this victory over wounds possible.

But credit must also go to another factor—*the fine chemical.* Many of these modern-day products *started with a fine chemical, or several fine chemicals, of exacting purity.*

And the purity of the fine chemical often assured the quality and the *success* of the product.

At Baker, it is always *measured purity* in fine chemicals—measured to exacting standards.

Leading pharmaceutical houses rely upon Baker. They know that Baker's purity by the ton in fine chemicals is the result of unique control methods and ceaseless testing. They know that, at Baker, "there is no compromise with quality."

J. T. Baker Chemical Co., *Executive Offices and Plant:* Phillipsburg, N. J.
***Branch Offices:* New York, Philadelphia and Chicago.**

FOR VICTORY BUY UNITED STATES WAR SAVINGS BONDS AND STAMPS

Baker's

Baker's fine chemicals

NOT "JUST AS GOOD"....BUT *better!*

Yes, it has been necessary to use known syntnetics and to develop new ones to replace many natural perfume oils no longer available. But many of these synthetics have so firmly established their worth that they will remain a permanent asset to the perfumer's art. Felton has developed and used many of these products, and has consistently maintained their high standard of quality throughout. Felton synthetics are recognized not only as more—but much more—than temporary substitutes for natural oils.

FELTON CHEMICAL COMPANY, INC.

599 JOHNSON AVENUE, BROOKLYN, NEW YORK • BRANCHES IN PRINCIPAL CITIES

FELTON
Quality

Manufacturers of Aromatic Chemicals
Perfumes & Essential Oils

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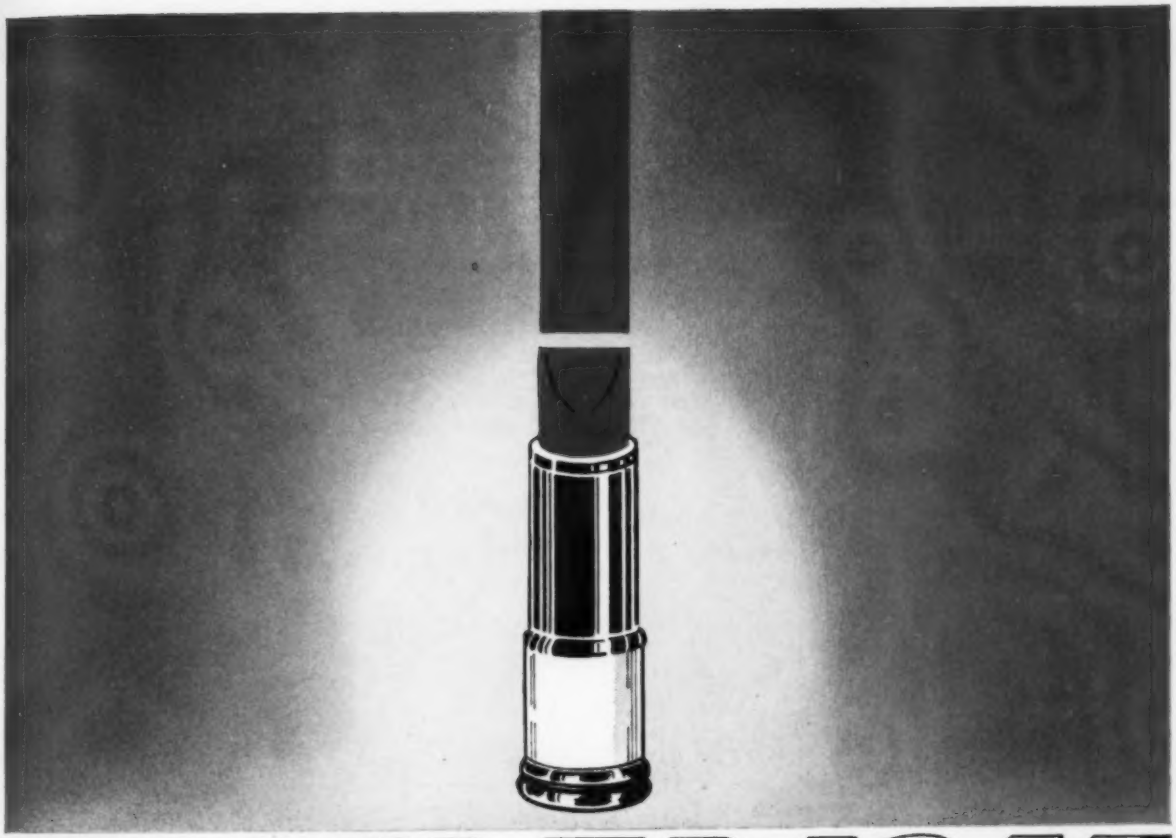

HELFRICH

HEADQUARTERS FOR ONE OR A COMPLETE LINE OF QUALITY TIME TESTED PRIVATE LABEL COSMETICS

Suppliers please note. A recent addition to the Helfrich New York staff.

HAROLD SENN, for 23 years production technician for Elizabeth Arden now production manager in our New York plant.

An Important Announcement

The New York and Chicago plants of Helfrich Laboratories are now operated under unified management. Our Canadian plant continues under the capable direction of Mr. E. L. Houston. The reputation that has earned for one of our American plants . . . **WHAT HELFRICH PROMISES . . . HELFRICH DOES** . . . will, we feel certain, be the case in all our plants . . . a reasonable amount of time conceded. A capable and efficient staff of experienced co-workers in key positions guided by a general management whose basic incentive is honesty and sincerity of purpose guarantees . . . quality merchandise, fair prices and prompt service consistent with present operating conditions.

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● HELFRICH LABORATORIES OF N. Y., INC., 151-163 WEST 26TH ST., NEW YORK ● CABLE ADDRESS: HELFLABS, NEW YORK . . . CHICAGO . . . TORONTO

HELFRICH Laboratories

Research in Red, White and Blue

Far flung . . . far spread . . . the power of American war effort becomes increasingly evident, particularly to the enemy. Our men in arms, our nation, all are involved in what may be termed a *"global form of research"* . . . It is a grim research . . . a determined research for a better world . . . for a new symbol, a step further, toward the formula which for the greater part, has escaped humanity.

It is impossible to parallel the domestic problems of supply and demand . . . of unavailable materials . . . of substitutes . . . even of little sacrifices, with the supreme effort of those who are actually in the fight. It is, however, possible and necessary to extend our every effort, as a nation, as an industry, to maintain standards and essentials while the greater research in Red, White and Blue proceeds.

★★★

In our industry of essential oils, reproductions and synthetics, continuous research — always a vital phase of the FLORASYNTH pattern — now intensified by external conditions — has enabled us to create and offer many "Substitutes for Substitutes", materials which are establishing new qualities, new effectiveness as *primary essentials* . . . proved under the difficult and trying circumstances of the times.

Florasynth **LABORATORIES, INC.**

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NEW ORLEANS • SAN FRANCISCO • SEATTLE

Florasynth Labs. (Canada) Ltd. — Montreal • Toronto • Vancouver • Winnipeg
Florasynth Laboratories do Mexico S. A. — Mexico City

where he will conduct investigations on the application of Larvacide (chlorpicrin fumigant) and other substances to the production and protection of foodstuffs.

Milburn Appoints Dr. Fiedler

The Milburn Co., Detroit, manufacturer of products for the prevention of industrial dermatitis, has announced the appointment of Dr. Albert Fiedler as director of research, in charge of the newly enlarged and fully equipped laboratory.

ALBERT FIEDLER

Dr. Fiedler, who specialized in organic chemistry at Columbia University and the University of Berlin, has been research chemist for the Celluloid Co., Newark, N. J.; plant superintendent and director of research for the Eagle Rock Mfg. Co., and for the Empire Laboratories, New York. Just previous to his affiliation with the Milburn Co., he was head of the technical and research department of Annabolic Foods, Inc., Glendale, Calif.

Strong Cobb Gets "E"

Strong, Cobb & Co., Inc., manufacturer of medicinal and allied products for the armed forces, received the Army-Navy "E" for excellence at the Masonic Temple Auditorium in Cleveland, September 25. The "E" flag was presented to George Miller, president of Strong, Cobb & Co., Inc., by Col. Stuart G. Smith of the Surgeon-General's Office in Washington. Army-Navy "E" pins for the employees were presented by Lieut. Com. J. P. Sturges, U.S.N.R., assisted by Sgt. Arthur E. Sizer, U.S.A.

Strong, Cobb & Co. was established in Cleveland in 1833 and is one of the "less than one per cent" of the companies doing business with the Surgeon-General's Office who have been given the "E" Award.

Hindle Returns from Trip

J. L. Hindle, vice-president of Standard Synthetics, Inc., New York, has returned from a business trip to the Pacific coast. With H. Furman and B. Borders, Standard Synthetics agents on the coast, he visited business friends in San Francisco and Oakland. He called on the trade in Los Angeles and investigated the American production of citrus oils.

On his way home Mr. Hindle spent some time in Chicago with Ed. Sinclair, manager of Standard Synthetics' branch office. Ralph Crow recently joined the firm as salesman in the Chicago district.

Heyden to Make Penicillin

Work has been started on the construction of a $1,000,000 laboratory for the manufacture of penicillin on the Brunswick Pike, near Princeton, N. J. Heyden Chemical Co., New York, will operate the plant which is expected to be completed within four months and in production within six months.

Pfizer Builds New Penicillin Plant

Charles Pfizer & Co. is establishing a new plant for the fermentation of penicillin. The company is already an important producer of the drug. Highest priorities have been obtained on the equipment needed and it is expected that the plant which will cost about $750,000 will be in operation by the end of the year.

Frame Joins Continental Can

Stanley T. Frame has joined the sales development department staff of Continental Can Co., Inc., as market analyst. He was previously associated with Swift & Co., Inc., in a similar capacity, and brings to his new connection more than ten years of specialized experience in that field. He will make his headquarters in Continental's New York office.

Revlon Makes Radio Debut

Revlon made its radio debut with a hit show featuring Gertrude Lawrence in her first sponsored program on September 30. The "Revlon Revue" will be on the air every Thursday, 10.30 p.m. Eastern War Time, coast-to-coast on the Blue Network.

Wilckens Changes Company Name

On a visit to New York in September, F. C. Wilckens announced that the name of his company has been changed from Wilckens Laboratories to Wilckens Chemical and Cosmetic Laboratories, Ltd., Toronto.

New Perfume

The firm of Prince de Bourbon and Dorelis, Inc., of 745 Fifth Ave., New York, announces the creation of a new perfume, Flame d'Amour. Prince Rene de Bourbon is president of the new firm, and Jose Dorelis is secretary and treasurer. Leonard Kersey has been appointed director of sales.

"I've got to get this back to Dow!"

SPEED UP THOSE DRUMS—BUT HANDLE WITH CARE!

You really deserve a special medal of honor for your great response to the call for drums. Like our friend in the above illustration, you have kept the drums moving—yet handled them carefully. We at Dow appreciate this kind of cooperation.

Still the need grows greater. For, with the ever-increasing tempo of war, chemical products must flow faster and farther.

So keep 'em rolling! And please continue to watch these few but vitally important points:

Always replace *both* bungs. . . . Tighten plugs securely—but don't strip threads. . . . Use proper size valves. . . . Keep drums clean—but don't rinse—don't use for other materials. . . . Finally—store under cover to prevent rusting.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • Cleveland • Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

Portrait of P. C. Magnus

A portrait of Percy C. Magnus, painted by the eminent artist, Edmund McGrath, was presented to the New York Board of Trade at ceremonies held in the Sert Room of the Waldorf-Astoria, September 15. The occasion marked the tribute of the members of the board to the long and untiring service of Mr. Magnus to that organization of which he is at present chairman.

Commercial Advances Denny and Hoover

At a meeting of the board of directors of Commercial Solvents Corp., Henry W. Denny, vice-president in charge of sales, was elected a director of the corporation. Mr. Denny has been in the employ of the company since 1926 and has directed the activities of the sales department for the past five years.

Kenneth H. Hoover, manager of the research department, was elected vice-president in charge of research and development. Under Mr. Hoover's management the research activities of Commercial Solvents Corp. have been greatly expanded in both the organic and biochemical fields. Notable achievements under Mr. Hoover's management have been the commercial production of the nitroparaffins, the large scale manufacture of vitamins and most recently the entry of the corporation into the pharmaceutical field through the production of desoxyephedrine and penicillin.

McKesson Appoints Thompson

Jesse W. Wynne, regional vice-president of McKesson & Robbins, Inc., for the southwest district, has announced the appointment of Ralph T. Thompson as manager of the company's Southern Drug Co. Division, Houston, Tex.

Mr. Thompson, who has been operations manager of the company's Van Vleet-Ellis Division in Memphis, was born in 1900 and has been employed in the wholesale drug business since 1916.

Haupert Heads Western Trading

Western Trading Co., Inc., Portland, Ore., has announced that William H. Haupert has been elected president and manager of the company, and Earle G. Goss has been elected secretary and treasurer.

Robert V. Cornell, formerly president of the company, is no longer connected with Western Trading Co.

PORTRAIT OF PERCY C. MAGNUS

Pepsodent Appoints Stege

Charles Luckman, president of The Pepsodent Co., Chicago, has announced the appointment of George R. Stege, Jr., to the newly created post of director of advertising and merchandising. Mr. Stege comes to The Pepsodent Co. from the Chicago office of Foote, Cone and Belding, advertising agency where he was account executive.

Victor A. Hunter, formerly advertising manager for The Pepsodent Co., has joined Foote, Cone and Belding as executive in charge of radio for the Chicago office.

Kirn Leaves American Home

W. J. Kirn is no longer connected with American Home Products Corp. Mr. Kirn had served as vice-president of the Anacin Co.

Prack Laboratories Appoints Bradley

Prack Laboratories, Inc., New York, manufacturer of industrial skin-protective creams, has announced the appointment of Albert J. Bradley as general sales manager. For the past ten years, Mr. Bradley has been with the New York office of Armour & Co., industrial soap division.

Prack Laboratories is inaugurating an expanded sales program which will include the appointment of representatives in Boston, Philadelphia, Chicago, and in the Pacific northwest.

Revlon Moves to Fifth Avenue

The Revlon Products Corp. has moved its entire executive and sales staff to 745 Fifth Ave., New York, where it will occupy the entire sixth floor.

Fashioned Like a Jewel

GRATEFUL FOR THE ENTHUSIASTIC RESPONSE OF PURVEYORS AND PUBLIC EVERYWHERE WE CONSTANTLY SEEK TO MAKE OUR PRODUCTS BETTER AND BETTER. KEEPING THIS OBJECTIVE ALWAYS IN MIND, WE MAINTAIN OUR STANDARD OF . . .

THE MOST PERFECT ALL PLASTIC LIPSTICK CONTAINER IN THE WORLD

HARRY BRODER

5 EAST 47th STREET • NEW YORK CITY
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COMING EVENTS CAST THEIR SHADOWS BEFORE!

LUSTEROID VIALS AND TUBES HAVE WHAT IT TAKES FOR POST-WAR REQUIREMENTS

When you add up the advantages of LUSTEROID products, it is easy to see why so many merchandising-minded companies are building post-war packaging plans around these dramatic plastic containers.

They're light as a feather, yet amazingly rigid and strong. They protect your product and display it through crystal-clear walls. They require no protective packing, and slash shipping costs. There are no labels to affix because your message can be reproduced as an integral part of the container.

LUSTEROID comes in all colors of the rainbow—clear or opaque. Sizes from ¼" to 1¼" in diameter and lengths up to 6". Cork, slip-on and screw-cap closures.

Write for full particulars Today

Lusteroid Container co., inc.

FORMERLY LUSTEROID DIVISION OF SILLCOCKS-MILLER COMPANY

OFFICE AND FACTORY
10 PARKER AVENUE, WEST
MAPLEWOOD, N. J.

MAILING ADDRESS:
SOUTH ORANGE, N. J.

People

Silver Star to Sgt. Axman

Sgt. Julius Axman, formerly with Standard Synthetics, Inc., New York, has been awarded the medal of the Silver Star for "extraordinary leadership against the enemy" in Sicily. Sgt. Axman is an experienced paratrooper or "master jump." He was the first to jump and directed the landing of his men under fire. The paratroopers then attacked and captured a small town and stormed and silenced pillboxes.

Sgt. Axman was among the first Americans to visit the extensive lemon groves in Sicily.

Dunnican Receives Citation

G. W. Dunnican, chief engineer for Lehn & Fink Products Corp., received the citation of the Ordnance Department of the United States Army for his redesign of an ammunition fuse. The citation was presented to Mr. Dunnican by Col. Gilbert I. Ross at a dinner held at the Waldorf Astoria Hotel, New York, on September 17. In receiving this citation, he becomes the third man in the New York district to be so distinguished by the United States Army, and is one of only 100 persons who have received the award throughout the entire country. Mr. Dunnican has been with Lehn & Fink for the past twenty-three years. The fuse is in maximum production by Lehn & Fink, which, before Pearl Harbor, was known only as a toilet goods house.

Sheffield Advanced to Captain

Word has been received that Peter Kyle Sheffield, youngest son of W. Kyle Sheffield, vice-president of New England Collapsible Tube Co., New London, Conn., is now a Captain in the Army Air Corps.

Captain Sheffield is a graduate of the University of Virginia, Class of '41. He was one of the first twelve in his class at Kelly Field and was immediately made an instructor. He is still an instructor and is now stationed at Stamford, Texas.

Associations

Allen Newcomb—N.W.D.A. Secretary

E. Allen Newcomb has been appointed secretary of the National Wholesale Druggists Association. Mr. Newcomb is a son of Dr. E. L. Newcomb, executive vice-president of the association and has been serving as his assistant. After his graduation from Massachusetts Institute of Technology he joined the market research department of Eli Lilly & Co. Later he obtained a Master of Business Administration degree from Harvard School of Business. In 1934 he joined E. R. Squibb & Sons with whom he was associated until he became assistant to his father early in 1942.

Michigan Golf Outing

The Allied Drug & Cosmetic Association of Michigan held its final golf tournament Wednesday, September 22, at Birmingham Country Club, Detroit. The association played six games during the season and after the September meet silver cups were awarded. E. E. Van Allsburg, Ecclestone Chemical Co. Inc., won the match play cup; H. P. Walmsley, Monsanto Chemical Corp. the low gross cup; and Jack La Rue, Magnus, Mabee & Reynard, Inc., the low net cup.

Other prizes in the form of war bonds and stamps were awarded as follows: First Flight—1st, H. P. Walmsley, 2nd, E. E. Van Allsburg, 3rd, Ray Vicary, Mark & Allen Co.; Second Flight—1st Jack La Rue, 2nd, Gordon Buck, Standard Oil Co., 3rd, Hank Royce, Wolverine Carton Co. & Lowe Paper Co.; Third Flight—1st, Bert Herzog, Union Trucking Co., 2nd, Stuart Cowell, J. T. Baker Chemical Co., 3rd, Walter Daniel, Parke-Davis & Co.; Non-Golfers—1st, M. G. De Navarre, Maison De Navarre Associates, 2nd, Don Melville, F. W. Kerr Co.; 3rd, Jim Day, Dow Chemical Co.

In past years the Allied Drug & Cosmetic Association of Michigan has played a match tournament with the golf auxiliary of the Chicago Drug and Chemical Association and the Chicago Soap, Extract and Perfumery Association competing for the Dearborn Trophy This inter-city meet has been discontinued for the duration.

T.G.A. Developments

The Toilet Goods Association, Inc. is now located in new offices in Room 1427, Time & Life Building, 9 Rockefeller Plaza, New York 20. The telephone number remains Columbus 5-5443.

Following the September meeting of the executive board, a committee on post-war planning was appointed. This committee will select its own chairman. Members of the post-war planning committee are: C. M. Baker, Pond's Extract Co.; A. H. Bergmann, Oxzyn Co.; Lee Bristol, Bristol-Myers Co.; H. L. Brooks, Coty, Inc.; A. C. Burgund, Carr-Lowrey Glass Co.; B. Franklin Conner, Colt's Patent Fire Arms Mfg. Co.; Paul Douglas, Bourjois, Inc.; Davis Factor, Max Factor & Co.; William Jacobs, Geo. W. Button Co.; Joseph Keho, Dorothy Gray, Ltd.; F. N. Langlois, United Drug Co.; H. J. Lehman, Wildroot, Inc.; Milton Martin, U. S. Industrial Alcohol Co.; Manning O'Connor, Colgate-Palmolive-Peet Co.; C. A. Pennock, Hudnut Sales Co., Inc.; L. R. Root, Scovill Mfg. Co.; Cecil Smith, Yardley & Co., Ltd.; Benson Storfer, Parfums Corday, Inc.; A. L. van Ameringen, van-Ameringen-Haebler, Inc.; Karl Voss, Karl Voss Corp.; Northam Warren, Northam Warren Corp.; Andre Wick, Houbigant Sales Corp.; S. L. Mayham, executive secretary, Toilet Goods Association; H. D. Goulden, director, board of standards, Toilet Goods Association.

Following the death of John J. Pollock, who for several years was chairman of the membership committee, Richard R. Powell, Plexo Preparations, Inc., has been appointed chairman of the committee and Sidney Picker, Miner's, Inc., has been made a member.

L. B. Dobie, Bristol-Myers Co., has been appointed a member of the scientific advisory committee.

Boston BIMS Golf Outing

Pete Niles, chairman of the BIMS of Boston reports that about fifty BIMS braved a real New England nor'easter September 30 at Woodland Country Club at their last golf party of the season. In spite of the rain it was a very successful outing. Low gross was won by Peter Forsman, C. H. Forsman Co.; low net by M. E. Nourse, Howe & French, Inc.; and kickers by Harold Ingham, Ingham & Co. The grand prize was won by Harold Dalbeck.

Chemical Exposition

Plans for the 19th Exposition of Chemical Industries which will be held this year at Madison Square Garden, New York, the week beginning December 6, are well advanced and the new laboratory methods and testing equipment what will speed war production will form an important part of the exposition.

Wartime restrictions not only prevented the acquisition of a larger ex-

Mimosa "S"

A most interesting perfume oil for lotions,
shaving creams and many other types of
toilet preparations. Moderately priced.

Compagnie Parento, Inc.

Executive Offices and Laboratories
CROTON-ON-HUDSON, N. Y.

NEW YORK
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SAN FRANCISCO

COMPAGNIE PARENTO, LTD.
TORONTO • MONTREAL

THE HANDS that WORK for VICTORY can STILL BE BEAUTIFUL

DURLIN will play its part in upholding civilian morale by continuing the flow of nail enamel to the leading cosmetic packagers. Their products are helping to maintain the fine spirit of the American women during the present period of emotional stress.

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THE DURLIN CORPORATION

11 WEST 42nd ST. NEW YORK, N. Y.

hibition area but curtailed certain exhibitors' plans because of secrecy surrounding some of their activities. Restriction of attendance to visitors having a technical interest in the products exhibited, and exclusion of the general public, has relaxed some of the less stringent restrictions, making the display as a whole broadly informing and especially helpful to those in production for the war effort.

Financial

Dow Quarter Net Off

Dow Chemical Co. and subsidiaries report for the quarter ended August 31 a net profit of $1,649,151, equal to $1.26 a common share. Earnings included dividends of $200,000 received from an associated company. The net profit for the same quarter of 1942 was $2,147,705 or $1.66 a common share.

No Coty International Report

Coty International Corp. reports that owing to the situation abroad it is impossible for the company to obtain sufficient information to enable it to publish an interim six-month report. If the necessary figures can be obtained a tentative report will be compiled.

McKesson Earnings

McKesson & Robbins, Inc., in its first full year's operations since changing from a calendar to a fiscal year basis, reports for the year ended June 30, net profits of $5,097,370 after payment of interest, provision of $10,639,226 for Federal income taxes and an addition of $500,000 to the reserve for contingencies, but not including a special credit of $254,310 representing over-reserve for the previous period's taxes. These earnings were equivalent to $2.85 a share on the common stock.

For the twelve months ended June 30, 1942, the consolidated net profits were $5,318,538 after $4,421,362 provision for Federal income taxes and $1,250,000 reserve for contingencies. The tax provision for that period was considerably lower than would have been required if the company had not been able to make substantial non-recurring deductions from taxable income because of charges arising out of renegotiation of contracts.

Net sales for the year ended June 30, 1943, amounted to $242,496,293, an increase of $37,256,726 or 18 per cent, over the $205,239,567 in net sales for the previous twelve months. W. J. Murray, Jr., president, reports that all major departments of the business shared in the increase. The drug divisions continue to be the most important factor in both volume and profits which, despite growing shortages of merchandise, particularly in the so-called sundry lines, were substantially higher than in the previous year.

McKesson to Recapitalize

W. J. Murray, Jr., president of McKesson & Robbins, Inc., has asked the holders of common stock to authorize a new issue of 200,000 shares of preferred stock, in order to simplify and strengthen the capital structure of the company and to permit greater flexibility in meeting future business conditions.

Mr. Murray stated that the proposal is to sell only 150,000 shares of such an issue at this time and to use the proceeds, together with company funds, to redeem all the 3½ debentures and the 5¼ cumulative preferred stock presently outstanding. A total of $19,203,152 is involved in the redemption of the debentures and preferred stock at their respective call prices.

The corporation has no present plans for disposition of the 50,000 shares of preferred stock above the proposed initial sale of 150,000. If the stockholders approve, the new capital structure of the corporation will consist only of preferred and common stock, with 150,000 shares of preferred stock without par value, and 1,682,726 shares of common stock of the par value of $18 per share outstanding.

Merck Doubles Net

Merck & Co., Inc. and subsidiaries report for the six months ended June 30, 1943, a net income of $2,106,127, equal to $1.87 a share on the outstanding common stock. This compares with a net income of $1,086,373, or 83 cents a share, earned in the six months ended June 30, 1942, and with net income for the year ended December 31, 1942 of $2,820,128, or $2.32 a share.

Net sales for the six months totaled $30,568,960 as compared with $20,248,368 for the first half of 1942.

Provision for Federal and Canadian income and excess profits taxes for the six months period totaled $6,378,134 as compared with $3,022,037 for the same period of 1942. Against the current provision for taxes there is a post-war refund of excess profit taxes totaling $606,505.

Squibb Earnings Per Share Off

E. R. Squibb & Sons report for the year ended with June 1943 net earnings of $2,455,388, equal to $4.81 a share. This compares with net earnings of $2,432,386, or $5.01 earned in the preceding year. All taxes combined totaled $5,507,780 against $3,441,586 for the year ended with June 1942.

Sales this year amounted to $42,432,472, a new high which exceeded the figure for the year ended June 1942 by $9,445,836.

Vick Earnings Up

Vick Chemical Co. reports for the year ended June 30 after provision of $510,000 reserve for contingencies, net earnings of $2,264,889, or approximately $3.32 a share against $2,211,430, or $3.25 a share for the previous fiscal year. Provision for taxes amounted to $3,761,769, or $5.52 a share, compared with $2,222,360, or $3.26 a share the year before.

Sales for the year amounted to $28,318,036 and greatly exceeded last year's volume of $18,379,184. The gain is attributable to the increased business of the parent company and each subsidiary engaged in domestic operations, as well as inclusion for the first time of sales for a full year of the J. T. Baker Chemical Co.

The company also announced a pension and group insurance plan for eligible employees. The maximum annual pension available to any officer or employee is $5,250 and the maximum insurance protection is $10,000. The year's total premium cost of both plans to the company is estimated at $67,324.

Obituaries

Mrs. Theodore Seltzer

Mrs. Lena Seltzer, wife of Theodore Seltzer, manufacturer of Baume Bengue of Weehawken, N. J., and president of French Hospital, New York, died October at the French Hospital after a long illness. Her age was seventy.

Mrs. Seltzer was born in Alsace. She was the vice-president of the Women's Auxiliary of the French Hospital and took an active interest in French-American affairs. After the First World War the French Government made her a Chevalier of the Legion of Honor for her work in behalf of France.

INDUSTRY'S BOOKS

The United States Dispensatory, edited by Horatio C. Wood, Jr., M.D., Ph.M., and Arthur Osol, Ph.G., M.S., Ph.D., assisted by Heber W. Youngken, Ph.M., Ph.D., and Louis Gershenfeld, P.D., B.Sc., Ph.M., 23rd Edition, 1881 pages, J. B. Lippincott Co., Phila., $15.

The United States Dispensatory is so well known and so valuable a reference work that it needs no introduction in the field it covers. Because of the character of the book a review must necessarily confine itself to changes and additions. These would indicate that the 23rd Edition of this great volume is probably the most outstanding since the original some 110 years ago. The special features are: 1. Every drug and preparation of the U.S.P. XII and N.F. VII, including all the new drugs such as the numerous sulfonamides, sex hormones, vitamins and similar products, are considered in detail. There is given the most recent information concerning the chemistry, botany, manufacture, pharmacy, dosage, physiologic action, therapeutic uses, and toxic properties. 2. All the drugs and preparations of the British Pharmacopoeia 1932 and its five addenda are presented, with descriptions. 3. U.S.P. XII and N.F. VII official descriptions and tests now given verbatim. 4. U.S.P. XII and N.F. VII formulas and directions now given verbatim. 5. War emergency replacements are indicated. 6. Formulas for clinical laboratory reagents. 7. Descriptive articles on practically all substances important to the profession of pharmacy or medicine but no included in the three legal standards, including the latest information on the new synthetic remedies. Those substances recognized by the Council on Pharmacy and Chemistry of the American Medical Association in their New And Non-Official Remedies are especially designated. 8. Complete and authoritative articles on the vaccines, antitoxins, serums, biologicals, endocrines and similar products including methods of manufacture. 9. Tables—The official tables of weights and measures, of specific gravities of different percentages of alcohol, acids, etc.; of thermometric equivalents and of atomic and molecular weights. 10. Types and arrangement of testing apparatus illustrated. 11. Trade name products described. 12. General articles on certain groups of chemically related active principles—such as the glycosides, the alkaloids, the sterids, the amino acids—surface-active agents, fixed and volatile oils, hydrogen ion concentration, radioactivity and the colloids.

Chemistry Made Easy, by Cornelia T. Snell, Ph.D., and Foster Dee Snell, Ph.D., 4 vols., D. Van Nostrand Co., New York, $7.95.

This 4 vol. set is designed specifically for home study and is presented so as to make it easy for the reader to grasp the essential principles of the science by himself and without a teacher. The theory and underlying principles of chemistry are covered in Volume I. Volume II deals with the elements and compounds in inorganic chemistry. Volume III covers the aliphatic and aromatic compounds of organic chemistry. Volume IV is intended as a source of information on the composition of actual commercial products. It is designed to give in brief concise form the salient facts about any class of materials. Simple experiments are discussed in places in the text. Each chapter concludes with a group of questions. Answers are given in the back of each volume. It is quite conceivable that serious minded students who have some ability to study alone might obtain a good general knowledge of a difficult subject from this set of books.

Inorganic Qualitative Analysis, by Harold A. Fales, Ph.D., Professor of Chemistry at Columbia University, and Frederic Kenny, Ph.D., Professor of Chemistry at St. Francis College, Brooklyn, 237 pp., D. Appleton-Century Co., New York, $2.65.

The main purpose of the authors of this volume is to present clearly some important fundamental principles of chemistry and to use as a frame-work for the study of these principles well-tried and well-established qualitative analytical procedures. In the study of principles an attempt has been made, wherever possible, to approach the subject from the experimental side and in many cases to give the student an experimental method which could be followed in verifying the principles considered. Many numerical examples and chemical equations have been given to aid the student in understanding the principle, associating it with previous experience and applying it to specific problems.

Physical Constants of the Principal Hydrocarbons, compiled by M. P. Doss, Technical and Research Division of The Texas Co., New York, 4th Ed., 215 pp., $3.75.

At the request of the Technical Advisory Committee of the Petroleum Industry War Council, a fourth edition of "Physical Constants of the Principal Hydrocarbons" has been prepared and is now available. The third edition of this publication, issued in March, 1942, contained 215 pages and listed properties of nearly 2,000 hydrocarbons. More than 100 pages in the new edition have been revised to include new and corrected data, particularly on the hydrocarbons related to the manufacture of aviation gasoline, synthetic rubber, synthetic resins, toluene, etc.

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Prepared Monthly by U. S. Industrial Chemicals, Inc.

U.S.I. CHEMICAL NEWS

October ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1943

Anhydrous Ethanol Finds New Uses in Vital War Jobs

Expanding Future Predicted for Product Pioneered by U.S.I.

For years, anhydrous ethanol has been used in the making of dyes, pharmaceuticals, anti-freeze (Super Pyro) and as a solvent in resin and nitrocellulose compositions.

War in the tropics, and the urgent need for large quantities of anti-malarials, have changed this picture radically. For both quinacrine (atebrin) and plasmoquin, the now-famous substitutes for quinine, are dependent on anhydrous alcohol at certain stages in their production. To visualize the magnitude of this one use alone, it is necessary only to realize that this country today is producing quinacrine at the rate of 1,200,000,000 tablets per year — the equivalent of 50 per cent more than the world's total prewar supply of quinine.

Synthesis of Sulfa Drugs

Not only in the manufacture of anti-malarial drugs is anhydrous alcohol finding new uses. Many chemical reactions which cannot be carried out in 190 proof ethanol become practical in anhydrous. Such reactions, for example, are currently being used in the synthesis of the newer sulfa drugs, sulfadiazene, sulfamerizine, and sulfamethazine. They have served, too, in greatly simplifying the production of vitamins B_1 and B_6.

As a solvent, anhydrous ethanol is acquiring importance in still other fields. An interesting new process for soap manufacture, in which the recovery of glycerol is greatly simplified, uses anhydrous alcohol. This helps satisfy the huge demand for glycerol in munitions and protective-coatings manufacture. Anhydrous alcohol is essential as a solvent to compensate for the water content of the low-proof ethanol used in wetting down SS nitrocellulose.

Many, if not all, of these uses for anhydrous ethanol will continue to grow with the coming of peace. Others will undoubtedly appear. All will amply justify U.S.I.'s pioneering effort, back in 1922, in introducing commercial anhydrous alcohol to the American market at a price only slightly higher than that of regular 190 proof.

What's in a Name?

Four different spellings of "Atebrin" currently appear in the literature about this new anti-malarial. "Atebrin" say both the American and British *Chemical Abstracts*. "Atebrine" says *Thorpe's Dictionary of Applied Chemistry*. "Atabrin" says *The Merck Index*. "Atabrine" says the *United States Dispensary*. On top of this, chemists call it quinacrine hydrochloride — or 4 amino-1-diethyl amino pentane 3-chloro-7-methoxy-acridone, for short.

Resin-Improved Red Lead Primer Protects Billions in War Equipment

Paint for Ships and Military Equipment of "Compelling Importance" in War, Says Navy

An unseen protector for America's great Maritime fleet, as well as for other implements of war valued in billions, has gone on duty as a result of an important improvement in paint formulation using alkyd resins. Today's *red lead primer*, on an alkyd base, widely used as an under coat for ships and other metal surfaces exposed to corrosive conditions, is saving extra man-hours as well as "saving-the-surface."

From U.S.I.'s Stroock & Wittenberg Division has come much of the resin progress raising the protective qualities of red lead primer, as well as other naval and military paints. S&W "Aroplaz 1328,"* for example, is a widely used alkyd constituent of paints meeting Army, Navy and Maritime specifications. In the Maritime primer (Specification MC52A1), it provides durability, flexibility and dull sheen. Sudden temperature changes, salt water spray, and even deformation of the surface may be encountered without opening cracks in the coating. The bond to the base metal is unusually tenacious. At the same time, fast drying is not sacrificed . . . a vitally important factor in today's shipbuilding.

Finish Coat for Battleships

The widely-used Navy finish coat (Specification 52-R-13) is another important paint to which "Aroplaz" gives great durability. Used on both outside and inside surfaces, it has the good brushability and drying characteristics needed where time is at a premium. Retention of the exact shade of color selected for maximum safety of the ship and non-reactivity with the necessary pigments, is a further strong point for "Aroplaz" resins.

(*Continued on next page*)

* Reg. U. S. Pat. Off.

New Equipment Design Speeds Vitamin Extraction

Fish oils are first saponified with aqueous ethanol-caustic soda. The vitamin-containing unsaponifiable fraction is then extracted countercurrent with an immiscible solvent $(CH_2Cl)_2$, in a specially-designed cylindrical vessel. The vessel, described in a British Patent is fitted with a revolving shaft carrying partly semi-circular, partly semielliptical baffle discs. This affords small clearance with the vessel on one side, wider clearance on the other. The discs are staggered so that solvent entering at the bottom is forced to follow a tortuous path up through the soap solution.

New Mothproofing Agent

A patent has been granted for a mothproofing composition consisting of a solution of a guanidine salt, with *p*-tert-amylphenol or a fatty acid in an organic solvent. Solubility of the salt is enhanced by the use of a substance such as *n*-butyl alcohol.

To protect America's "bridge of ships" against the ravages of drenching rains, salt spray and scorching sun, shipyards are using thousands of gallons of tenacious new red lead primer formulated with S & W resins.

ADVERTISEMENT—*This entire page is a paid advertisement.*

October ★ **U.S.I. CHEMICAL NEWS** ★ 1943

Improved Red Lead Primer

(Continued from preceding page)

Resins Improve Duck Coating

In still another application, S&W resins find themselves close to the front lines as a constituent of a protective coating for cotton duck (meeting Jeffersonville Q.D. Specification 242). In the tropics, particularly, where rain, sun, humid heat and mold growth would mean quick decay for unprotected canvas, this coating with a combination alkyd-hard resin base has a vital job to do on tents, hospital sidewalls, and the like. An important characteristic of the resin combination (Aroplaz-Arochem) is its compatability with chlorinated paraffin, which is included in the formula to keep the coating non-flammable.

One measure of the importance of paints in the war — and of the production demands for resins being made on the Stroock & Wittenberg Division of U.S.I. — can be obtained from recent figures released by the U. S. Navy Department, which state that some 50,000 carloads of paint are used on American men-of-war alone! The paint for one battleship would cover a fence 5 feet high — 273 *miles* long!

Foresight in the expansion of facilities for resin manufacture by U.S.I. has been a highly important factor in increasing the volume as well as the protective quality of paints for war. The highly specialized job of producing alkyds by combining phthalic anhydride, a fatty acid or an oil and glycerine is being carried out continuously under complete automatic control at one modern plant. For the production of ester gums, maleics and other resins in which natural rosin is a raw material, another new U.S.I. plant operates day and night in the heart of the Southern Pine country, with the wood rosin itself piped in from an adjacent producer.

Military paints, ranging all the way from stencil paint to spar varnish — from airplane "dope" to the familiar lusterless olive drab which marks the "jeep" the world over — are being formulated with one or more of S&W's six types of resins. These are:

"S&W" ESTER GUM — all types.

CONGO GUM — raw, fused and esterified.

AROPLAZ — alkyds.

AROFENE — pure phenolics.

AROCHEM — modified types.

NATURAL RESINS — all standard grades.

Granulated Soaps Kept Dust-Free by Spray Treatment

As granulated soaps lose moisture, the individual granules tend to break down into a fine dust which is annoying to the user. This difficulty is overcome by spraying the granulated soap with small quantities of certain polyhydric alcohols or other materials which act as hygroscopic agents and binders, according to a British Patent recently issued to a prominent soap manufacturer.

The spray must be carefully applied so as to hold the individual granules together without causing lumping. A material which is nonsoluble in the soaps is also of advantage, as it tends to coat the surface of each granule rather than being absorbed to a point where increased quantities are required.

Agents specifically mentioned are glycerol, ethylene glycol, diethylene glycol, sorbitol and mannitol. Also alkyl phosphates ($MRHPO_4$) in which M is an alkali metal and R an alkyl group.

A New Oxidant for Vat and Sulphur Dyes

Sodium chlorite, a new oxidizing agent used for bleaching cotton and other cellulose fibres, is reported to be valuable in developing vat and sulphur dyes.

Dyes are first reduced with sodium hydrosulfite to make them soluble. After absorption by the fabric, they must be oxidized to restore their original color. Chlorite is applied either in hot sodium bicarbonate or acetic acid solution. The chlorite is reduced to common salt which is easily removed.

The new process is said to speed up output of khaki, olive-drab and other cotton goods as much as 30 per cent, to simplify reproduction of colors, to produce more absorbent, softer, better-rinsing goods.

Non-Toxic Treatment For Insulin Hypoglycemia

Acetopyruvic acid, prepared from ethyl sodium acetone oxalate, is reported to provide protection against death by insulin hypoglycemia. Its action suggests a possible conversion to glucose during a critical demand on blood sugar. The drug is said to be nontoxic in moderate doses and easily absorbed from the alimentary canal.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

Bonding of steel or light alloys, with a strength exceeding riveting, is said to be possible with a new synthetic resin adhesive. The process is also said to be effective in bonding metals to dissimilar products such as wood, plastics, and leather. (No. 739)

U S I

A mastic flooring material, especially suitable for areas where static electricity is a hazard, is announced. Easily applied over present floors, it is reported to provide an electrically-conductive surface which is easily cleaned, resistant to hard wear and heavy wheel loads. (No. 740)

U S I

A potash fish oil soap, available in limited quantities, is suggested as a carrier for insecticides or for use in commercial soap manufacture. (No. 741)

U S I

A new preservative for pharmaceutical and cosmetic products, reported to combine high efficiency in low concentration with extreme solubility in water, is announced. The preservative is said to be colorless and odorless. The manufacturer also announces another new preservative for products containing oils, fats, and alcohols. (No. 742)

U S I

A new paint spray gun, in which critical materials are limited to the air nozzle and needle valve, is announced. Nozzle design is said to prevent clogging, clean easily, and permit pattern adjustment from round to flat. (No. 743)

U S I

A new non-rubber sealing tape, stated to be both waterproof and non-toxic, is being recommended for sealing food, medicine and other consumer goods packages. (No. 744)

U S I

A new alcohol, (hydroabietyl) is now being offered as a paper coating, as a holding agent for china wood oil in varnish, and as a wetting agent for dispersing pigments in vehicles or during grinding. The new alcohol is valuable also as a plasticizer for protein film formers. (No. 745)

U S I

A luminous tape has been developed for indicating the location of aisles, machines and other important points during blackouts or power failures. The tape is reactivated, after service in the dark, by exposure to light from ordinary incandescent lamps. (No. 746)

U S I

Combustion tests, at temperatures up to 1000°F., are facilitated by a new electrically-heated, multiple-unit furnace. Originally designed for carbon determinations on gasoline cracking catalysts, the furnace is said to be adaptable for many other organic combustions. (No. 747)

U S I

A new boiler coating is offered to provide greater protection against both corrosion and fungus growth. The coating is said to retain its plasticity, and resistance to "craze," indefinitely. (No. 748)

U.S.I INDUSTRIAL CHEMICALS, INC.

60 EAST 42ND ST., NEW YORK 17, N. Y. — CHEMICALS · RESINS · ANTI- · SOLVENTS · ALCOHOLS · FREEZE · USI SERVICE TO INDUSTRY — BRANCHES IN ALL PRINCIPAL CITIES

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Specially Denatured—all regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
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Ansol M
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Dibutyl Oxalate
Diethyl Oxalate
PHTHALIC ESTERS
Diamyl Phthalate
Dibutyl Phthalate
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OTHER ESTERS
*Diatol
Diethyl Carbonate
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INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-anisidide
Acetoacet-ortho-chloranilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloranilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate
ETHERS
Ethyl Ether
Ethyl Ether Absolute—A.C.S.
RESINS
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ACETONE
Chemically Pure
FEED CONCENTRATES
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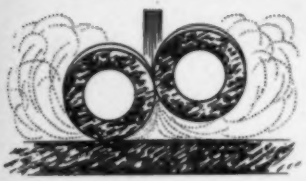
Are you having any trouble with your SOAP?

Over 40 years ago, the first Neutral Powdered White Soap was introduced to the manufacture of cosmetics and proprietary remedies by the House of Hopkins. Though perfected through the years by various technical improvements, Hopkins' Rajah Brand Neutral Powdered White Soap is today made *under the same original formula and process.* Not one, but many, qualities account for this remarkable fact. For example, Hopkins' Neutral Powdered White Soap gives you—

- *extreme snow-whiteness*
- *thoroughly neutral taste*
- *total absence of free alkali*
- *low moisture content and very low residue of alcohol, water and sodium carbonate*
- *resistance to varying temperatures*
- *good meshing quality*
- *a non-rancid, non-hardening, fine-looking finished product*

Send for a free sample to use in a trial batch, stating the nature of your product. Quotations on request.

COLD GRANITE MILLING and what it means to you



To insure against discoloration and rancidity which usually develop from excessive heat in the process of milling, Hopkins' Neutral Powdered White Soap is milled between slow geared chasers (only 70 rpm). This method is slower and more painstaking, yet our prices compare favorably with lesser qualities, due to our large production.

J. L. HOPKINS & CO.

220 BROADWAY NEW YORK

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for Drugs and Cosmetics

■ One of the many essential services to the drug and cosmetic industries rendered by the House of McKesson for more than a century is the importing and distributing of basic drug materials from all parts of the world. Improved, perfected and extended, this important service to the industry is now used by scores of manufacturers to help produce drug and cosmetic preparations which satisfy the exacting needs of millions of consumers. Inquiries welcomed.

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Brown Company—*Chloroform*
Hawaiian Pineapple Co.—*Citric Acid*
Zinsser & Co.—*Gallic Acid, Tannic Acid*
Stauffer Chemical Co.—*Cream Tartar, Tartaric Acid*
British Cod Liver Oil Producers—*Cod Liver Oil*

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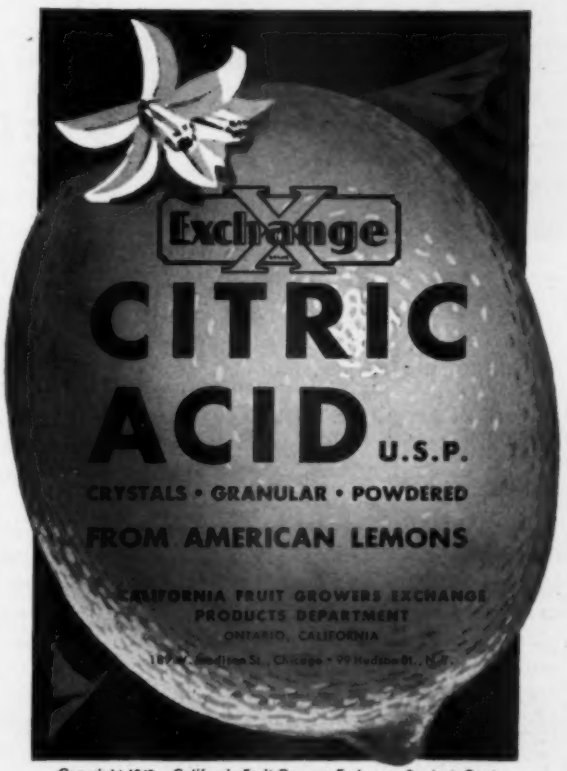

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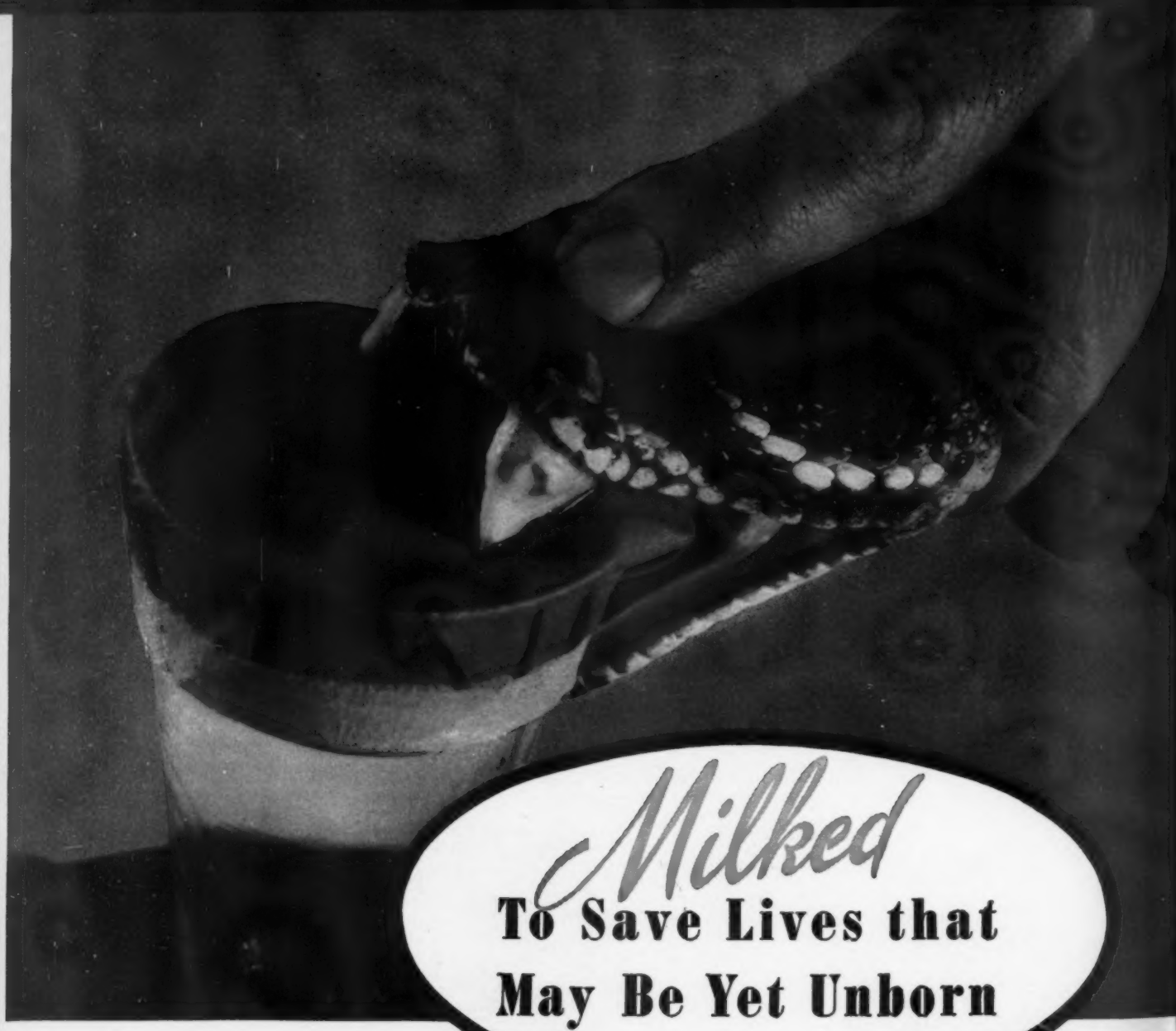

Milked To Save Lives that May Be Yet Unborn

Anti-snake-bite serum has been used for years. Yet many people continued to die in out-of-the-way snake-infested areas because the correct serum of full potency was not immediately available.

Now science has taken another great stride forward—offers you serums that may be carried into far-off places, that can be stocked by any druggist, that are desiccated and supplied in glass under vacuum so that original therapeutic potency lasts for many years.

Credit high vacuum processing for this development. Dried from the frozen state under high vacuum by a basic method licensed by the Lyophile-Cryochem Company, not only anti-snake-bite serums but many serums and anti-toxins for common as well as rare diseases are now being prepared by this method and stored at strategic points, throughout the world, ready to save lives that otherwise might be lost.

The F. J. Stokes Machine Company helped pioneer in the development of this method of preserving labile biological and pharmaceutical products and in the development of the high vacuum equipment used in the process.

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F.J.Stokes · ENGINEERS · MANUFACTURERS FJS Est. 1895

PRODUCTION FORUM

By FRANCIS CHILSON
Production Engineer

PAY NOW

Last month under this caption the desirability of paying now for equipment to be delivered after the war was discussed in some detail. After the article was written and had gone to press, I had a talk with the president of one of the very large packaging machinery concerns, and his attitude was that his company would be opposed to any such procedure on several grounds: first he contends that under one of the WPB rulings the procedure would be illegal; second, he maintains that his company would not be inclined to change the seniority rating of orders now on its books simply because somebody wished to get preferential treatment by paying cash on the barrel-head; third, his feeling was that accounting problems would be involved which he would just as soon avoid. This attitude is fair and high-minded, but notwithstanding, I am in complete disagreement. A large well-heeled organization like the one cited will have no need of the cash, of course, and it has enough background to be able to spot the orders that are likely to be canceled after the conclusion of the war. Certainly the majority of equipment organizations are not in this fortunate position. If, however, the recommended practice is illegal, that's that, and nobody can do anything about it. One thing is certain —the backlog of machinery orders is piling up and you had better look your plant over and place your orders now or you will be on the tail end of a long waiting list.

PRODUCTION FORUM

This department is now so old that it is becoming moth-eaten. In fact, as I look back over the issues of the last two or three years, I should say it is becoming decrepit. Much of it has to be written in haste. As my professional work has piled up year by year, less and less time has been available to devote to this department. The wonder about it all is, not that the department is moth-eaten, because anybody can write a crummy department with very little effort, but that you fellows who read it out of force of habit have raised no complaint—that is to say, not many of you have raised a complaint. My alter ego, Howard Sumner had the nerve to call this tripe "drivel", and he proposed that an editorial committee be appointed to meet every month in some comfortable bar to write the department. The suggestion is excellent. Accordingly, such a committee will be appointed to meet at a time and place to be announced later. It will be understood that the meeting is to be open to all qualified production men. Also it is to be understood further that those who show up and fail to make an original contribution to the department will have to pay for the drinks all around. Under such an arrangement it shouldn't take more than two or three weeks to write the department on a three-shift basis. Original contributions, however, must be limited to the production of pharmaceuticals and cosmetics. I have been out with quite a few of you birds before, and while it is beyond me to criticize your originality in certain fields, there are certain activities which cannot be described in print. Those of you who would like to attend the first meeting in New York please drop me a note at once. You must, however, leave your wife at home.

PRESCRIPTION BUSINESS

Last month in this magazine an editorial writer wept over the scarcity of qualified pharmacists and the decline in the retail prescription business. I know that discussing this subject is like pulling a hornet's nest over one's ears. The last time I discussed it everybody in retail pharmacy took a shot at me, in print and out, but my shoulders are broad and my head is thick so I can't help making an observation on the article, which may start the hornets buzzing again. In the first place I don't see why we should weep because of an inexorable economic change. It is admitted in all branches of pharmacy and medicine that few physicians have the training to write effective original prescriptions. As a matter of fact pharmacists are trained to be eternally on guard against incompatibles and other errors in doctor's prescriptions. Many of these prescriptions are copied from some ancient tome on medical practice anyway. So why weep crocodile tears because the majority of doctors are writing prescriptions for packaged goods. The doctors can still write prescriptions for packaged articles using Latin hocus pocus the patient

Surgical Silk

A recent addition to the many War Products being wrapped on our Machines

Like many another manufacturer seeking a fast, practical way to package products for the armed forces, the makers of Deknatel Surgical Silk found the answer in one of our adjustable wrapping machines . . . Placed in an open boat, and wrapped in moisture-proof cellophane on our FA, both sizes of spools are readily accommodated.

Wartime wrapping problems are providing a valuable source of ideas for our Engineering Department. If you are planning any new improvements, whether for war or civilian packaging, call on us for suggestions.

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Over a Quarter Billion Packages per day are wrapped on our Machines

can't identify. When you look at the catalogs of the big firms and at a compendium like Modern Drug Encyclopedia, you at once realize that there's a packaged remedy for every conceivable kind of ill that the flesh is heir to, and I am not talking about proprietaries either. The difference between the pre-packaged prescription and the hand-made prescription consists in the fact that the manufactured article is invariably made from fresh medicinals under strict chemical control and rigid supervision. It would seem, therefore, that the patient getting a packaged product is given better protection. So why weep crocodile tears because the doctors are too busy to write prescriptions about which they know very little and in which are likely to make a lot of mistakes? The doctor's prerogative of prescribing and the pharmacist's prerogative of dispensing is certainly not impaired by the fact that the prescription calls for a packaged product. The pharmacist's profits certainly will not be impaired because he can still set the retail price on a prescribed article. (There are ways and means.) On the other hand it isn't likely that the limited number of strictly ethical pharmacies will decrease. It is likely, however, that the prescription departments of the general stores, known as drug stores, will continue to be, as they are now, merely adjuncts to the main business of selling packaged goods, alarm clocks, and soda pop. We may weep sentimentally for the ancient pharmacies in one of which I served an early apprenticeship, and which contained a heterogeneous assortment of aged fluid extracts in flyspecked bottles more ancient than the store itself, but I'll be damned if I see any sense in it.

DUMP SKID

In answer to widespread demands for a skid box that could be dumped satisfactorily with standard fork or high-lift power trucks, engineers of The Union Metal Manufacturing Company, Canton, Ohio, have developed the Drop-Bottom Dump Skid Box, illustrated.

This new unit consists of an all-steel box, attached to a skid platform with a continuous hinge at one end. Steel plates are welded to the skid at a point equal to the length of the forks or platform on the power trucks to hold the skid in position at the end of the forks and prevent it from sliding back as the forks are lowered. Attached to the top rear of the box are latch rings which are hooked over a plate welded to the truck mast when the unit is being used. In operation the skid portion is entered with forks or platform of trucks, the box elevated and the latch rings attached. As the forks are lowered, the skid portion goes down while the box portion goes up, and the contents of the box are dumped in front of the unit. Spot dumping of materials is accomplished by the side plates which form a chute to keep the contents from spilling out the sides during the dumping cycle. These side plates may be extended up to the box top and a crane loop welded to each plate, allowing the unit to be handled by crane for transporting or tiering. The Drop-Bottom Dump Skid Box may also be used as a standard skid box for unit load transportation, or handled by hand lift trucks for short operational spotting. The Union Metal Manufacturing Company, manufacturers of this new unit, of materials handling equipment, also produces a complete line of steel boxes, skid platforms, and pallets.

GADGET OF THE MONTH

In a recent publication I spotted a device which looks like and operates exactly like a tire pump. The barrel of the pump is filled with granulated dehydrating material, presumably silica gel or lithium chloride, which turns pink as it becomes saturated with moisture absorbed from the air drawn through it. The notice does not specify what the gadget was created for, but the thought occurred to me that it would be handy for experimental purposes in the laboratory in experiments requiring small amounts of dry air or gas. The same idea on a larger scale can be obtained from Pittsburgh Lectrodryer Company. This pump is made by the Victor J. Andrew Company, 361 East Seventy-fifth Street, Chicago, Illinois.

DUST COLLECTING

The usual practice is designing dust collecting systems handling a large volume of air containing a fairly substantial proportion of suspended solids is to interpolate between the fan and the final filters some type of cyclone, for the purpose of throwing out the major portion of the dust before the air reaches the glass, wool, or cloth filters. The usual practice is to design these cyclones in relation to the volume of air handled—that is, the larger the volume, the larger the cyclone. Of course, there are mechanical alternatives to centrifugal cyclones in the form of electrostatic precipitators and mechanically operated precipitators such as the Turbo-clone made by the American Air Filter Company but

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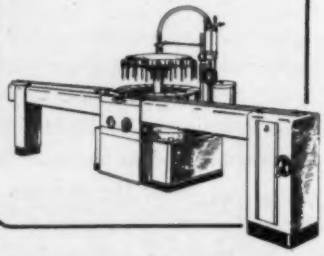

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The Western Precipitation Corporation of Los Angeles, California makes a non-mechanical dust precipitator known as the "Multiclone." These multiclones or precipitation tubes exemplify a practice exactly opposite to that exemplified in the usual cyclone. Multiclones are based on the principle that the efficiency of a cyclone increases as the tube diameter decreases. Hence it is claimed that a nine-inch Multiclone tube has eight times the dust separating power of a six-foot cyclone. This is brought to your attention because the postwar period will see an immense increase in the application of dust collecting devices throughout the drug and cosmetic industry. In air conditioning practice alone, which also will increase sharply, there is a need for dust precipitating devices in the return air ducts of air conditioning systems. Usually enough dust is carried in these ducts to clog the filters and thus create a back pressure on the fans. Sometimes minute particles of dust will pass through clogged filters and collect on condenser coils, thus reducing the efficiency of the system. It strikes me that centralized dust collecting systems will probably give way to localized systems, in which case the small compact devices like the Multiclone will have tremendous advantages.

MAINTAINING PUNCHES AND DIES

As strange as it may seem and in spite of all that has been written on the subject, one still encounters tablet plants in which punches and dies for tablet machines are given just about as much care as scrap iron. One still frequently sees sets of punches and dies thrown together loosely in a box and put up on a shelf, there to remain corroding until wanted again. Success in making accurate tablets depends to a large extent on care of the punches and dies. If they are worn, variation in tablet weight will result. If they are chipped, scratched, or corroded, tablets will stick or cap altogether. Tablets and punches should be given more care than a soldier gives his rifle. Upon being removed from the machine, they should be carefully cleaned, inspected and oiled and then placed in boxes in which each punch and die has its own compartment, so arranged as to preclude any possibility of metallic contact. A block of wood of suitable proportions drilled out for the dies and for the punches makes an excellent carrier. Punches and dies have to be made of hard steels that will withstand heavy pressures, ranging anywhere from one to many tons per square inch; they must resist wear and abrasion; they must resist impact such as is given when the punches pass under the pressure wheels, and yet the steel should be tough enough to resist crystallization and fatigue for a long period of time. A punch that breaks or distorts can raise hell in general. So far as I know, no one has yet discovered the perfect material of which punches and dies should be made.

The requirements for punches and dies for high speed rotary machines are much more rigid than for single punch presses. The punches and dies for multiple punch rotary machines must be even more accurately controlled. It is desirable to remember that granulation varies considerably from product to product in abrasive qualities and in adhesive qualities as well. Variations in density and mesh are encountered.

Punches are designed to fit into the die within extremely close tolerances and yet they must not be tight. Yet even the closest tolerances will sometimes cause difficulties when too many fines are present in the granulation. In dealing with materials containing chalk or magnesium oxide, sticking will frequently occur not only because of the abrasive nature of these materials, but also because individual particles may be only a few microns in size and hence if the granulation contains too much fines, it will sift down between the punch and the die and cause sticking. I have always been of the opinion that any kind of granulation should be made within extremely close mesh tolerances with no fines on the one hand, and no coarse aggregates on the other.

The manufacture of gunpowder is related to the manufacture of tablet granulations. In the case of gunpowder, the density must be uniform, and the particle size just as uniform. Otherwise when a cartridge is loaded there would be a difference in the weight of the charge and a consequent difference in the performance of the projectile. In the manufacture of rifle bullets, the shells are filled volumetrically at very high speed. Yet they are filled with absolute accuracy because the powder granulation is graded so that only a certain number of grains of powder will fit into the volumetric filling cups on the filling machines. The problem of grading granulation so that all particles will be exactly the same size would be no problem at all. I know the old theory is that you have got to have a certain percentage of fines in order to make a good solid tablet. I wonder if this isn't more fancy than fact. I have made excellent tablets with graded granulations. Not long ago I was in a big plant which prides itself on the quality of its tablets, and I was told by the superintendent that their granulations contained no fines at all. They didn't, however, take any particular pains with the granulation so long as it all remained on a certain mesh sieve.

Some of the oldtimers will howl because it appears necessary in certain instances to have a soft granulation in order to promote quick solubility. The softness of the granule has nothing to do with its size. You could have a soft as well as a hard granulation of a uniform particle size, but to keep the particle size uniform the granulation would have to be hard enough to sustain a certain amount of handling. I question whether solubility and hardness are functionally related. I think perhaps that solubility and particle shape are more closely related than the former. In any case the disintegration of the tablet can be regulated by the starch content and, once the tablet breaks up in the throat, stomach, or intestines according to its purpose, a difference of a few

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minutes in the solubility of the individual particles would seem to make little difference.

All this leads up to the proposal that all tablet granulations should be pre-compressed before granulation so as to produce granules of uniform density. That may startle you because you know that pre-compression or slugging has been done only in connection with dry granulation. You also know that dry slugging has been successful in dealing with products like aspirin, apc tablets, soda sal, and others. But you can pre-compress anything, whether it is wet or dry. All you need is the right kind of extrusion machine. Anything can be extruded in the form of pellets or slugs, and the density of the slug is a function of the moisture content of the mass and the pressure exerted upon it. I expect some day soon to see all granulating departments equipped with apparatus similar to a spaghetti press. Extrusions can be made in particles as small as one-sixteenth of an inch in diameter by one-tenth of an inch long. As the threads are extruded from the die, they are cut off by a flying knife. A blast of dry air will immediately case-harden the particles so that they will be stuck together during the subsequent operations.

This brings us back to compression. It is obvious that if you regulate the density of your material by pre-compression of the type described, and if, moreover, you keep your particle size absolutely uniform, then it follows inexorably that a die will contain only a given number of granules and hence a given weight. Some firms which follow very rigid standards regarding weight control checkweigh their tablets as they come off the press every fifteen minutes. Some do it every half an hour. All this is necessary because the granulation varies more than the wear on the punches and on the dies. The vibration of the tablet machine in operation is an excellent stratifier, and when you have the hoppers filled with an irregular mixture, of particle sizes, the finer ones work to the bottom and the variation in tablet weight results. If you are not particular about granulation size, you should some day stop the press every fifteen minutes and unload one of the dies just after it has been filled. You will find a tremendous variation. Some of the samples will be pretty nearly all fines and some will be pretty nearly all aggregates. I am convinced that none of us knows too much about tablet making. There is still too much art in the process and too much hocum in the art and not enough science anywhere in it.

TRAY WASHING

Those of you who make a regular practice of washing granulating trays and other large work will find it interesting to investigate the washing machine made by the American Foundry Equipment Company, Mishawaka, Indiana. This apparatus, which consists of a hooded washing chamber, solution tank, pump, spray, et cetera, is designed with a wire mesh table which may be up to 42 inches in diameter depending upon the size of the machine, and which rides a vertical shaft up and down through sprays. Might be useful for washing granulation cans also. Should think that it would work as well on open-mouthed jars as well.

BARREL HANDLING

Has it occurred to you that there does not exist on the market a good device for handling barrels? By good I mean compact, quick, and easy to handle, especially in narrow aisles. If your operation requires handling thousands of barrels, your problem is relatively simple because you can utilize a power-operated truck with a lifting fork. I am thinking of the average plant which might have only a few hundred barrels of various sizes and shapes. In such a plant a good many of these barrels would be open. If the open barrels and drums are not stacked on shelves, they take a whale of a lot of floor space. If they are stacked on shelves, then they have to be handled in a vertical position in order to avoid spillage. When such barrels are piled two and three high on shelves, it is the customary practice to use a portable elevator operated with a hand crank or with a motor. The most compact of these devices is as clumsy as hell anyway. If the apparatus is motor-operated, you have the bother of hooking up the power cable. This interferes with its portability. In previous discussions I have suggested the use of a hydraulic lifting table like the one made by Lyons Manufacturing Company. The trouble with this device is that it does not lift high enough. You could stack a barrel two high but not three. Neither does it lower the barrel far enough because the hydraulic pump is located in the center directly under the elevator table. In its lowermost position the table is still about fourteen inches from the floor. This is too high for the comfortable handling of a 350-pound barrel. If the pump of such a table could be offset to one side, leaving the platform free to travel all the way to the floor, it would be very much better. Complications can be seen in such a design.

A possible solution seems inherent in the design of a portable jib crane mounted on a skid which recently came to my attention. This jib crane consists of an ordinary steel-bound skid with a concrete platform to give it weight as a counter balance. At one corner of the skid platform the upright of the crane is located. The upright is braced to the sides of the skid to give it rigidity. The arm of the jib of the crane rotates a full 360 degrees from the top of the upright and is equipped with a hand hoist and trolley. This design makes it possible to pick a load up from the platform by means of the hand hoist. When elevated to a suitable height, the jib can be turned in any direction into a shelf or over a stack and the load can be pushed on the trolley into position and then lowered into place. Without some refinements such a device would be awkward in handling barrels but it contains the germ of an idea as to how the barrel handling problem can be solved.

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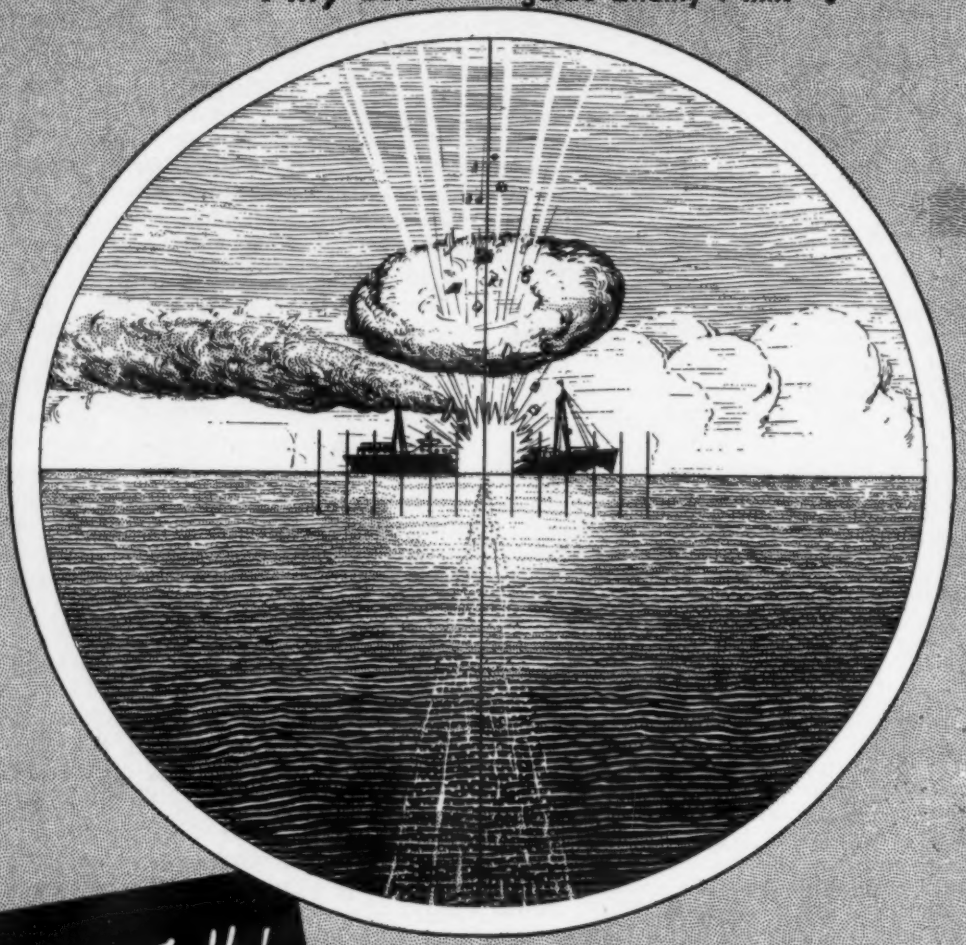

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LIPSTICK MANUFACTURE

All of you who make lipsticks or suppositories have the problem of keeping the mix warm while it is being poured into molds. This is not particularly easy because the molds hold very small quantities. In some cases gluepots have been used, in others ordinary double boilers or water baths to keep the mix warm and fluid. I should like to call your attention to a device made by Vacuum Can Company, 25 South Hoyne Avenue, Chicago, Illinois. This company makes a vacuum can called the Aer Void which has been used in war plants for transporting hot coffee and soup to workers. The can is equipped with a non-drip faucet. Hence you could fill it with lipstick or suppository mix and the mix would stay exactly as you wanted it until the molds were all filled. These cans are available in several sizes. There is even one very large one designed to be carried on a hand truck. Such a large one would be big enough to hold an entire batch of ointment or cream. If you drop a line to the advertising director of the company, he will send you a catalog. I have already suggested the possible use of this equipment in our industry for the purposes indicated.

HANDLING ORDERS

The assembly of customers' orders in the shipping room deserves a lot of attention, especially when a considerable number of different items are involved and shipped in less than case lots. Some outfits use portable tables to assemble orders. A portable table is handy enough. Its disadvantage lies in the fact that it is either too small or too large for individual orders. A second disadvantage consists in the fact that the table must be pushed by the stockpicker all the way to the shipping table. This extra footwork can be curtailed by installing an overhead chain with hooks which can be attached to the filled tables so that the chain will drag the filled tables to the checking desk and return the empty ones to the stockroom.

A second device which has much merit consists of the baby carriage or supermarket buggy idea. Such a perambulator enables the stock-picker to carry two or three tote baskets and enables him to scoot in and out of narrow aisles. Still another method is to use an overhead nonorail system. When the number and variety of orders are large enough to justify the cost of such an installation, this method is by far the most efficient way of assembling orders. A stock-picker can handle one carrier or a dozen. The carriers themselves may be made with any number of shelves. They save legwork because a push will convey the carriers a long distance.

Still another method of assembling customers' orders is to use tote boxes and a conveyor. Such a system is advantageous only when the number of different items is relatively limited and the shelves can be arranged parallel with the conveyor. If the number of items is considerable and the shelves have to be arranged at right angles to the conveyor, the stock-picker must pull the tote basket or even carry it into the aisles of shelving A second difficulty consists in the return of the empty tote boxes to the stock-picker. In certain types of layout this can be provided for by a return conveyor mounted above or below the principal conveyor.

The trouble with all stock assembly systems is that the stock-picker must cover so much territory in order to assemble an order. In one layout I made some time ago, I had twenty-four chutes coming from an upper floor converging in an assembly desk more or less in horseshoe fashion. This set-up worked beautifully. The chutes were filled by cases stored on the floor above. The stock-picker stood in one place and assembled customers' orders calling for shelf goods at a tremendous rate of speed and with very little effort. However, the condition that made such a system work consisted in the fact that the packages were fairly regular in shape and relatively small. Also they were substantial enough to ride down the chutes without breakage. The cue in laying out a stockroom assembly system is to reduce the leg work and rehandling as much as possible. This is a pretty large order in some cases.

FLOOR ELEVATOR

From time to time I have discussed the various means for loading and unloading trucks when shipping docks are not available. A number of elevators have been called to your attention. I want to add to the list the unit made by Lyon-Raymond Corporation, Greene, New York. In addition to the portable lifting table mentioned elsewhere, this outfit builds a hydraulic elevator, the platform of which is flush with the floor. These elevators or lifting rams have been used also for lifting truckloads of material to convenient working heights during processing operations.

UNLOADING CARBOYS

The simplest means for discharging carboys is known as Speare's Safety Siphon, distributed by Homogeneous Equipment Company, Downington, Pennsylvania. This siphon is made of plastic throughout and is very simple to operate. It has no mechanical parts whatever. The cost of the gadget is only $15. Incidentally, you could use the same handy little gadget for filling gallon bottles out of portable tanks or drums.

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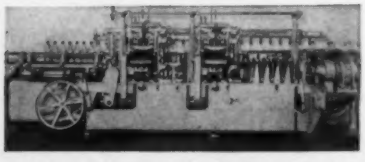

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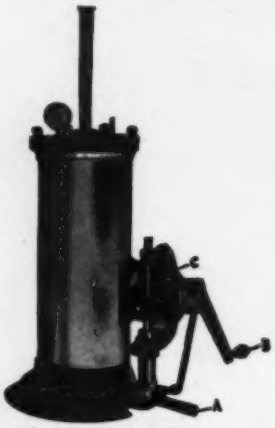

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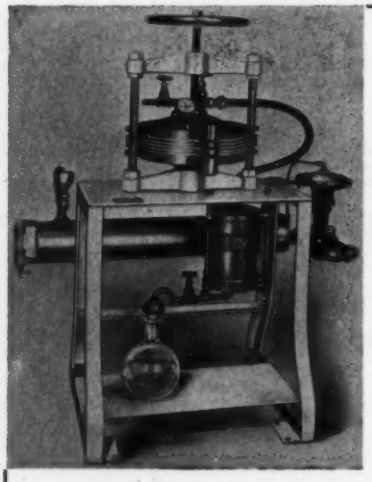

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MEDICINAL OILS OF GREAT BRITAIN

To people in the soap, perfumery and cosmetic industries, oils—both fixed and essential—are familiar, every day working materials. W. E. James, however, in an article on the medicinal and essential oil resources of Great Britain appearing in *S.P.C.* (16:333, 1943) stresses the medicinal value and importance of these products. It is his opinion that despite the fact that new and powerful drugs are being used in the treatment of diseases, this does not really diminish the utility of, or the need for, essential and fixed medicinal oils. There will be an ever-growing need in post-war years for such oils, perhaps not as specific remedies as in former days, but as useful auxiliary weapons to aid in the treatment of the lesser ills. Research work in the field of medical chemistry is continuous and perhaps such work will reveal a potent therapeutic aid in such oils. In the meantime, these oils continue to serve a useful purpose. The table given here, adapted from James' article, concisely presents some pertinent data regarding these medicinal oils:

FIXED OILS

Oleum	Method of Preparation and Botanical Source	Therapeutic Uses	Dose
Amygdalae (almond oil)	Expressed from bitter and sweet almonds. N.O. *Rosaceae*	As an emollient externally, demulcent and laxative internally	1 to 4 fluid drachms
Arachis (peanut oil)	Expressed from the seeds of *Arachis hypogoea*. N.O. *Leguminosae*	Similar to olive oil	½ to 1 fluid ounce
Gossypii Seminis (cottonseed oil)	Expressed from the seeds of *Gossypium herbaceum*. N.O. *Malvaceae*	Similar to olive oil	½ to 1 fluid ounce
Lini (linseed oil)	Expressed from the seeds of *Linum usitatissimum*. N.O. *Linaceae*	Laxative, and as a liniment for burns	½ to 1 fluid ounce
Olivae (olive oil)	Expressed from the ripe fruit of *Oleaeuropaea*. N.O. *Oleaceae*	Laxative and demulcent; used in the treatment of gastric ulcer	½ to 1 fluid ounce
Ricini (castor oil)	Expressed from the seeds of *Ricinus communis*. N.O. *Euphorbiaceae*	Widely used as a purgative	1 to 4 fluid drachms
Theobromatis (cocoa butter)	Expressed from the seeds of *Theobroma cacao*. N.O. *Sterculiaceae*	As a base for medicinal substances, e.g., suppositories	—

ESSENTIAL OILS

Oleum	Method of Preparation and Botanical Source	Therapeutic Uses	Dose
Anethi (oil of dill)	Distilled from the fruit of *Peucedanum graveolens*. N.O. *Umbelliferae*	Employed as an aromatic carminative	1 to 3 minims
Anisi (oil of aniseed)	Distilled from the fruit of *Pimpinella anisum*. N.O. *Umbelliferae* and star anise	An aromatic carminative and expectorant	1 to 3 minims
Cajuputi	Distilled from the leaves of *Melaleuca Leucadendron*. N.O. *Myrtaceae*	Used both internally and externally in chronic rheumatism	1 to 3 minims
Caryophylli (oil of clove)	Distilled from the flower buds of *Eugenia caryophyllata*. N.O. *Myrtaceae*	Anti-spasmodic and carminative, used in neuralgic conditions	1 to 3 minims
Cinnamomi (oil of cinnamon)	Distilled from the bark of *Cinnamomum cassia*	Carminative and possesses antiseptic properties	1 to 3 minims
Eucalypti	Distilled from the leaves of *Eucalyptus globulus* and other species. N.O. *Myrtaceae*	Used as an antiseptic, astringent and deodorant	1 to 3 minims
Lavandulae	Distilled from the flowers of *Lavandula vera*. N.O. *Labiatae*	Sometimes used as a carminative for flatulence and colic	1 to 3 minims
Menthae Piperitae (oil of peppermint)	Distilled from the flowering *Mentha piperita*. N.O. *Labiatae*	For relief of flatulence and to prevent griping	1 to 3 minims
Rosmarini	Distilled from the flowering tops of *Rosmarinus officinalis*. N.O. *Labiatae*	Mostly employed in hair lotions	1 to 3 minims
Santali	Distilled from the wood of *Santalum album*. N.O. *Santalaceae*	In cystitis and gonorrhoea	5 to 15 minims
Terebinthinae (turpentine)	Distilled from various species of *Pinus*, and rectified. N.O. *Coniferae*	In small doses in bronchitis, etc. The larger dose to expel tape and thread worms	3 to 10 minims; as an athelmintic 2 to 4 fluid drachms

MEXICO TO GROW NEEDED BOTANICALS

According to a note in *Science News Letter* for August 14, 1943, eight important medicinal and insecticidal plants are being introduced into Mexico to replace unobtainable Far-Eastern products. Mexico will produce red squill for rats; rotenone and pyrethrum for insects; and belladonna, senna, peppermint (for menthol), henbane and stramonium for medicinal uses.

PROPYL GALLATE VS. AUTOXIDATION OF OILS

E. Boehm and R. Williams (*Pharm. J.* 151:53, 1943) have investigated the antioxidant properties of gallic acid and certain of its esters and have compared their properties with those of certain well-known antioxidants for oils and fats. From the practical and commercial standpoint, e.g., ease of solubility at relatively low temperatures, acidity and color, and from the point of view of general effectiveness, normal propyl gallate is considered the outstanding antioxidant of this class.

Pure anhydrous propyl gallate (normal propyl 3:4:5-trihydroxybenzoate) is a white-creamy, odorless, solid melting at 146° to 148° C. The properties of this substance were compared with those of pyrogallol and gallic acid as an antioxidant in lard, using concentrations ranging from 0.01 to 0.5 per cent. Pyrogallol turned the lard brown, whereas with propyl gallate and gallic acid it remained white. The effectiveness as measured iodometrically was of the order: pyrogallol, propyl gallate, gallic acid. Tests were also made with arachis, linseed, cod-liver, soya bean, cotton seed, almond, coconut and palm oils, and with suet, and on the relative values of propyl gallate, gallic acid pyrogallol, and Siam benzoin on the autoxidation of lard. It was found that the inhibition

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It is not too well known that scores and scores of new, basic aromatic chemicals have been discovered in recent years as a result of war research. But because of government demands, production of these materials has been restricted to quantities sufficient only for experimental use. Literally hundreds of these substances have been carefully investigated by our laboratories and we can say, with certainty, that many of them offer amazing possibilities as future perfume ingredients once they can be produced in sufficient quantities for commercial use. By that time, our perfumers will have studied and thoroughly tested each of these materials and embodied the most promising in *ready-to-use* compounds and specialties for the perfume-cosmetic trade. Manufacturers will then have a varied selection of completely new and original odor effects to choose from—finished fragrances ready for immediate use without further manipulation, or compounds for blending according to their own individual needs or fancies.

The point is, that when this war ends, the preliminary work of experimentation will have been completed and we shall be fully prepared to help our customers with ideas and inspiration for the use of these interesting, new materials in their post-war perfumes and cosmetics.

We hope we may include *you* among those who will profit by these developments.

DON'T LET DOWN NOW...

WHILE the public's support of the recent Third War Loan drive was all that could have been expected of it, employee participation in payroll deductions for Bond and War Stamp purchases has shown a serious slackening off. The beginning of this trend coincided with the first withholding tax deductions in July and undoubtedly the two were related. For many, this represented their first tax contribution toward the appalling cost of war. Others looked upon the withholding tax as an added levy upon wages, not realizing that it was merely a device set up to enable the individual to pay his tax through his employer *as he earned it,* rather than to the Federal Tax Collector direct in annual or quarterly installments, long after the money had been earned—and in many cases *spent.* Still others failed to realize that should the withheld tax amount to more than their computed income tax, they would be credited the difference at the tax year's end. These, no doubt, were contributing factors to the decline in payroll Bond and War Stamp purchases.

This, however, is no time to let down. With fighting intensified, with increasing losses in men and supplies, and with American wounded pouring back to our shores as a grim reminder of what *they* have been through, it must be evident that the need for every employee's *continued* contribution of not less than 10% of his earnings is greater now than ever. And be it remembered that the money Uncle Sam cannot raise by *borrowing* at interest, will have to be raised by *additional taxation!* So whatever you employers and employees have been contributing, don't let down now, but give, give, GIVE!

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BACKGROUND VALUES . . . a PART of the product, APART from the

Above: Part of the Analytical Laboratory, Clifton plant.

Left: Preparing a catalyst for large batch manufacture to replace similar product formerly imported from Europe.

WE HAVE frequently called attention to our organization's ample laboratory facilities and vast experience, and in a general way have suggested what these advantages mean to our customers. Quite by chance, opportunity was afforded us recently on a photographic tour of our Clifton factory to find an example that perfectly illustrates our point. There, set up in our Analytical Laboratory, was an imposing apparatus consisting of heating unit, various and sundry glass and rubber tubes and a large flask containing a bubbling amber fluid. Inquiry revealed that here, in preparation for large batch manufacture, was an important catalyst formerly supplied only from abroad, but now, through experience and technical knowledge of the processes involved, we were making that catalyst here—and solely for our own use. The action of this catalytic agent in accelerating the manufacturing processes of certain of our products is but one, simple example of how experience, accumulated over the years, is helping us to keep our loyal customers supplied with flavors, chemicals and essential oils that are consistently better, more uniform and in the long run, far less costly to use.

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afforded by 0.1 per cent propyl gallate in lard was equal to that obtained by ten times as much Siam benzoin and probably greater than that of thirty times as much Sumatra benzoin. For lard stored under ordinary conditions 0.05 per cent propyl gallate provided adequate protection. Propyl gallate exerted a considerable protective influence on every oil which was examined.

Toxicity tests were also performed. Indeed, one of the investigators took 0.5 gm. of propyl gallate on six consecutive days without any noticeable effect on the urine. Tested on the skin of guinea pigs and of humans, no untoward effects by propyl gallate were observed, although pyrogallol produced a severe erythyme.

WAX FROM THE JOJOBA BUSH

According to a note in *Foreign Commerce Weekly* for Aug. 14, the jojoba bush may provide a new raw material and a new source of wealth for Mexico's semi-arid regions in the northern states and in lower California. Reports in the Mexican press say that the jojoba bush has been found to produce an excellent liquid wax. According to the reports, the jojoba nuts which yield the wax have been commanding as high as $200 a ton for export into the United States. Experiments in the cultivation of the nuts has been started near Florence, Arizona and the bush is considered adapted for Arizona and New Mexico as well as south of the Rio Grande.

ESSENTIAL OIL OF ARTEMISIA

Steam distillation of Artemisia verlotorum Lamotte from the Research station for Official Plants, affiliated with the botanical garden in Naples, yielded an essential oil, analysis of which gave: 1-camphene, cineole 4.20%; fenchone, alpha-phelladrene, beta-thujone 11.30%; thujyl alcohol 21.77% free, 5.95 % combined; codinene, acetic acid and valeric and palmitic acids in the form of esters. M. Covello: Bull. orto. batan. Napoli 15, II, 61-71.

ALLERGY TO FOOD ODORS

That many foods, as inhalants, can cause allergic symptoms has long been a fact accepted by allergists. However it is coming to be recognized that many foods, which hitherto have been considered to exert their influence only when they are ingested, can also produce symptoms merely by their presence in the patient's environment.

This point is well substantiated in the report of A. J. Horesh on the relationship of food odor allergy to infantile eczema. Writing in the *Journal of Allergy* (14:335, 1943), and citing nine carefully selected cases, he points out that time and again infants with eczema who appear to be doing well under suitable treatment will suddenly become worse for reasons which it is not always possible to explain. Sometimes this is due to the acquisition of some new sensitivity. Many times, however, Horesh has found that some food, acting as an inhalant, is the cause of these increases in the severity of the eczema. Generally all that is needed in such cases to control the symptoms is to keep the infant out of the kitchen when foods are being prepared. However, the importance of recognizing this type of sensitivity must be stressed in the management of infantile eczema.

EPINEPHRINE PLUS GLYCERINE FOR ASTHMA

Severe paroxysms of asthma and coughing are often relieved by inhalation of a 1:100 solution of epinephrine hydrochloride, usually applied by means of a hand bulb vaporizer that provides a fine vapor. However, patients using such preparations frequently complain of dryness of the throat, irritation of the throat, nervousness, palpitation, nausea, headache, dizziness and weakness. Because the dryness and irritation of the anterior portion of the throat often disappears if the patient swallows a little warm glycerine, S. D. Lockey (*J. Allergy* 14:382, 1943) incorporated 5 per cent glycerine in the 1:100 epinephrine solution. Tests on a group of thirty patients showed that throat irritation and dryness appeared 82 per cent less frequently among the group using the glycerinated solution as compared with a similar number of control cases using the usual preparation. In addition, longer periods of relief were obtained with the epinephrine-glycerine solution and most patients expectorated more frequently and productively. Then, too, practically all patients preferred the glycerinized material.

The solution is readily prepared as follows:

Suprarenalin crystals.....	10.0 gm.
Sodium chloride.....	9.0 gm.
Chlorobutanol.....	5.0 gm.
Sodium bisulfite.....	0.9 gm.
Dilute HCl (10% U.S.P.)	20.0 cc.
Glycerine.....	50.0 cc.
Distilled water, to make .	1000.0 cc.

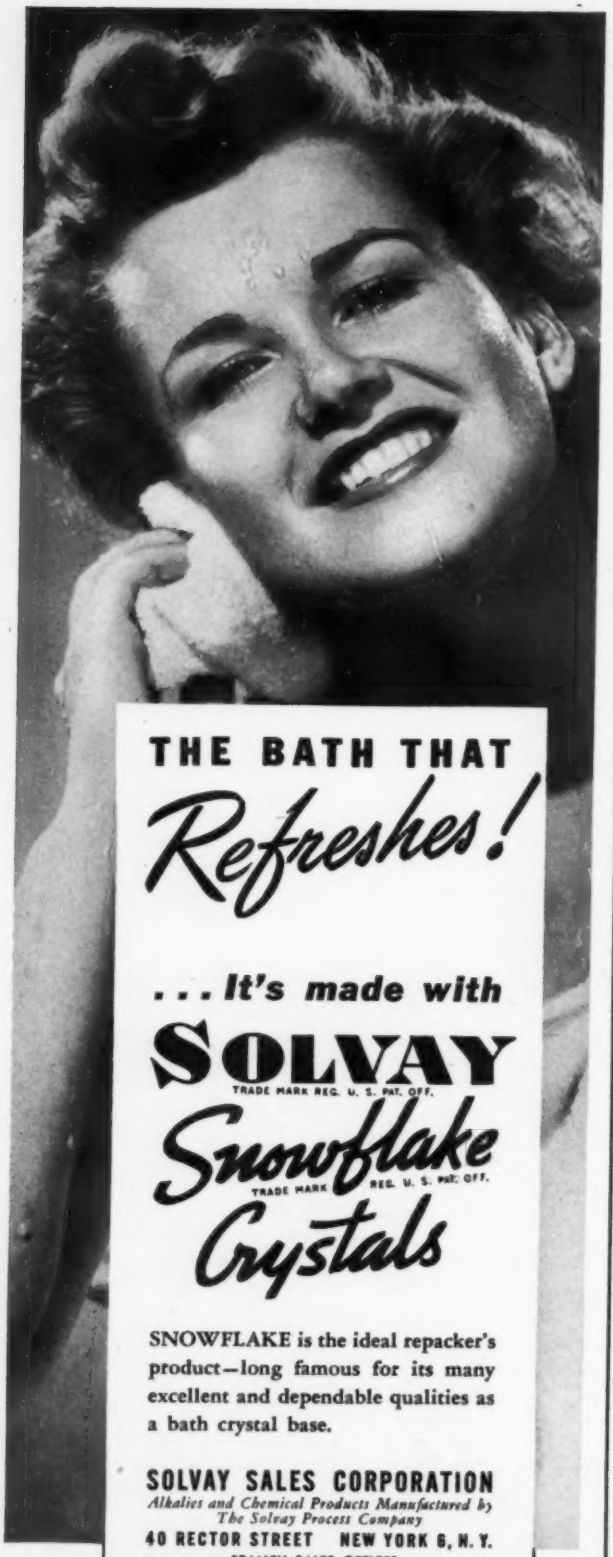
Heat 850 cc. of triple distilled water and 50 cc. of glycerine to boiling to remove dissolved air. Shut off the heat and add the chlorobutanol and sodium chloride. Allow to cool to room temperature and add the sodium bisulfite. The suprarenalin crystals are dissolved in the dilute hydrochloric acid and added immediately to the above solution. The pH is then adjusted to 3.0 (a variation of from 2.9 to 3.1 is permissible). If necessary, a few drops of dilute sodium hydroxide may be used to bring the pH to the requisite level. If the acid is a little weak, a small amount of normal hydrochloric acid should be added. Distilled water is then added to bring the volume to exactly 1,000 cc. The solution is then filtered and bottled. Metal apparatus must be avoided in preparing this material.

PROSTIGMINE IN POLIO THERAPY

Prostigmine, a drug which has proven of considerable value in relieving the fatigue of skeletal muscles in patients with myasthenia gravis, has been given a preliminary trial as an adjunct in the treatment of poliomyelitis. The results have been encouraging, according to the report of H. Kabat and M. E. Knapp appearing in the *J.A.M.A.* (122:989, 1943). In a series of 20 patients, most of whom were in the subacute stage of the disease, the drug significantly increased the range of passive motion, decreased or eliminated deformities in some cases by relaxation of hypertonus and in some instances improved active motion. In a number of instances muscle spasm has shown more rapid improvement when the drug was added to the Kenny routine of applying hot foments. In a majority of the patients, the drug appeared to accelerate recovery.

SULFADIAZINE FOR MENINGITIS

The routine administration of sulfadiazine in all cases of meningococcic infections, which include meningitis, is recommended by L. W. Hill and H. S. Lever, of the Medical Corps, Army of the United States in their report in the *J.A.M.A.* (123:11, 1943) on an outbreak in an army camp. Intravenous treatment with the drug as a routine is advocated for the first twenty-four hours. There were no deaths in 68 consecutive cases so treated. This recommendation is further supported by another report in the same issue made by W. B. Daniels, S. Solomon and W. A. Jaquette, Jr., also of the Army Medical Corps.



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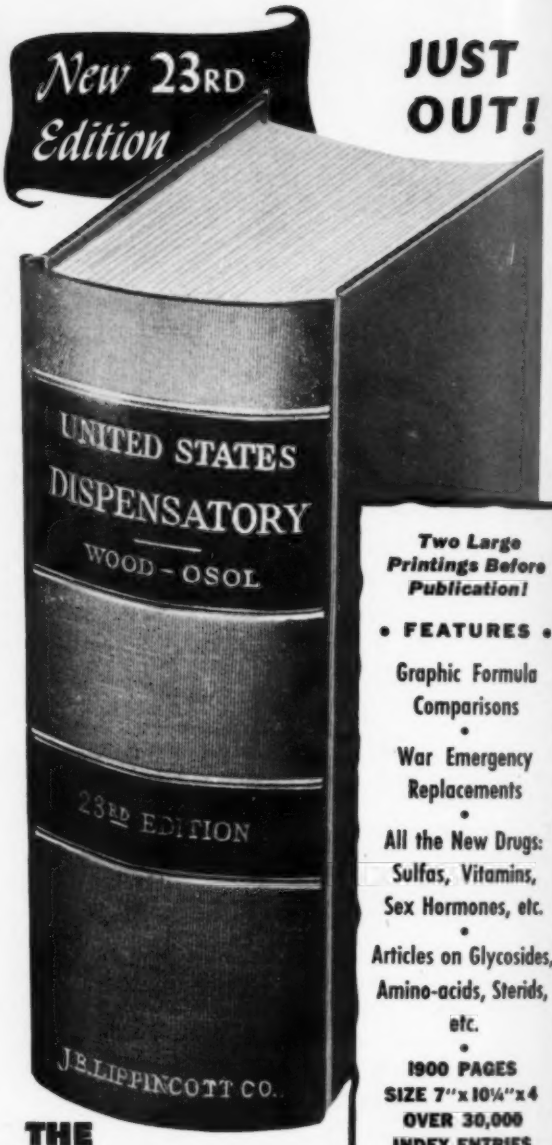

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VITAMINS AFTER BURNS

According to the latest revision of the OCD's "Treatments of Burns and Prevention of Wound Infections," it has been definitely shown that a reduction of vitamin stores in the body, especially vitamin C, will interfere with normal wound healing by interfering with the laying down of collagen. The OCD recommends that all wounded or burned patients receive the following amounts of vitamins daily until recovery is complete:

Vitamin A	5,000 International units
Thiamin	2 mg.
Ascorbic acid	75 mg.
Riboflavin	3 mg.
Nicotinic acid (niacine)amide	20 mg.
Vitamin D	400 International units.

If large amounts of glucose are being administered via the intravenous route, it is advocated that from 10 to 20 milligrams of thiamin chloride and 100 milligrams of ascorbic acid should be added daily to these fluids.

MOSS BANDAGES

In the event that there should be a shortage of surgical dressings made with absorbent cotton, it is a comfort to know that an effective substitute is available in quantity. Writing in *The Military Surgeon* (92:548, 1943), A. Williams recalls that during World War I, Sphagnum moss was in great demand by the Allies as a substitute for then hard-to-get absorbent cotton. This particular species of moss has very great absorbent properties and is cooler, less irritating, softer and far more flexible than absorbent cotton. For centuries, country people of Scotland and Ireland have used Sphagnum moss in the treatment of burns, boils and ordinary wounds. However, the Germans were the first to use it in modern surgery.

Physiologists base the value of this particular kind of moss on its marvelous power of absorbing liquids. It has been found that the average cotton pad absorbs only five or six times its weight of water as compared with from 15 to 30 times for a Sphagnum moss pad. Nor does the sponge-like moss cake or clog as does absorbent cotton when left on a wound. Hence, moss bandages need not be changed so frequently.

In this connection, it is of pertinent interest that the Russians have revived the use of moss dressings in their present emergency. The moss is carefully cleaned of all extraneous matter, dried, steam sterilized and formed into gauze-covered pads of various sizes. Their experience shows that wounds heal much more rapidly with moss than with cotton, because of better drainage obtained.

ANTIBACTERIAL ACTION OF PROPAMIDINE

Employed for several years in the treatment of protozoal infections, recent work has shown that propamidine (4:4-diamidino-diphenyoxy propane) also possesses antibacterial action. Used locally in the treatment of wounds, propamidine was found to inhibit bacterial growth in complex media and, unlike the sulfonamides, to be uninfluenced by para-amino-benzoic acid.

These earlier findings have been confirmed and extended by H. I. Kohn, who reports in *Science* (98:224, 1943) that changing the pH of the media from 7.0 to 7.7 slightly increased the drug's activity against *E. Coli*, but raised the potency of the drug three to four times against *Staphylococcus Aureas*. However, the drug acts more rapidly against *coli*, whereas in *aureas* cultures the bacterial inhibition develops gradually over a period of from 50 to 70 minutes. Preliminary tests in urine showed that propamidine is active at less than 4 mg. per cent.

Studies of the effect of propamidine on bacterial metabolism, reported by F. Bernheim in the same issue of *Science* (p. 223) show that, unlike sulfanilamide and its derivatives, propamidine directly affects the oxidative metabolism of bacteria.

DEHYDRATED MEDICINAL PRODUCTS

A German patent (721,222) granted to the I. G. Farbenindustrie describes a process for making dry therapeutic preparations from solutions. According to the patent, solutions of active ingredients are sterilized and transferred to ampoules. They are then frozen and subsequently dried from the frozen state. The resulting product is voluminous and is readily soluble.

TESTS ON ENTERIC PILL COATINGS

Various methods for testing enteric pill coatings have been developed, but A. H. A. Abbott and N. F. Allport prefer an *in vitro* test. They have devised a special apparatus in which the coated pills are surrounded by artificial digestive fluid kept at 37° C. and gently agitated by the passage of a continuous current of air. In their investigations, it was decided that a satisfactory enteric coating would be one which would withstand the action of an artificial juice for five hours and would disintegrate in an alkaline intestinal fluid within one hour. The acid digestive fluid used was that of Maney and Kriever (*J.A.Ph.A.* 30:276, 1941), with a pH of 1.6. The alkaline solution suggested by Toplis in 1915, consisted of pancreatin 2.8 gm., sodium bicarbonate 15 gm. and distilled water to make 1000 mils. Their findings with various enteric coatings, summarized in *The Pharmaceutical Journal* (151:52, 1943), are as follows:

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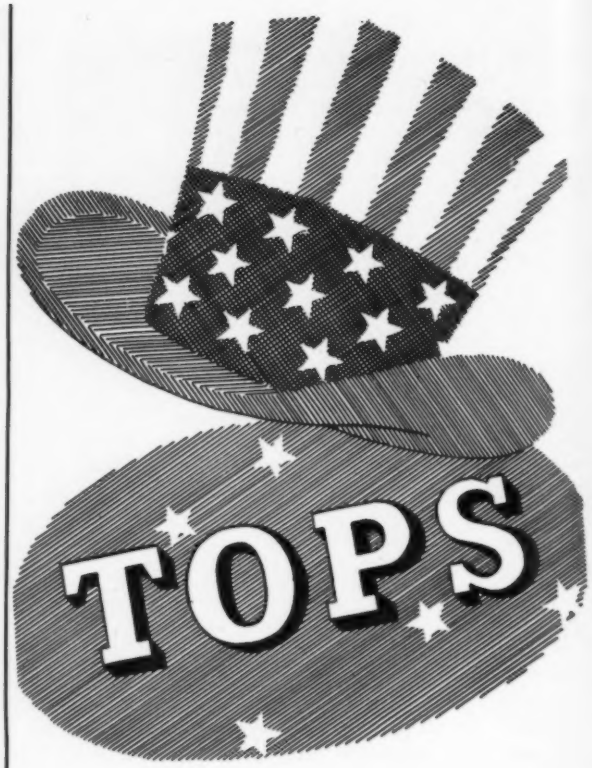

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Keratin.—The efficiency of this coating has been questioned by various workers, who agree that it does not adequately withstand acid pepsin digestion. This is confirmed by the authors, the pills remaining intact in the gastric fluid for less than one hour.

Formalized gelatin.—Most observers agree that formalized capsules or gelatin coated pills are only satisfactory when recently prepared, and no study was made of this form of coating.

Salol.—Molten salol, ethereal solution of salol B.P.C. 1923, a salol benzonaphthol varnish, and an alcoholic solution of salol and stearic acid were tested. The B.P.C. ethereal solution and the salol-stearic acid solution proved satisfactory, both enabling pills to remain intact in gastric fluid for five hours, but their relatively high cost reduces their value for commercial use.

Stearic Acid.—A mixture of stearic acid, carnauba wax, soft paraffin, agar and powdered elm bark has been suggested and gave a satisfactory protection providing a heavy coating was used.

Magnesium Stearate.—The stearate is dusted on to the pills which have previously been rendered tacky with a solution of mastic in methyl propyl ketone. Protection for five hours was obtained, the pills disintegrating in alkaline fluid in one hour, and in neutral intestinal fluid in three hours.

Shellac.—Solutions of shellac in alcohol and strong ammonia are unsatisfactory and the addition of wool fat or castor oil has numerous disadvantages.

Myristic Acid.—Mixed with hydrogenated castor oil, this substance gave protection in gastric fluid for three and a half hours.

Cetyl Alcohol.—A solution containing 10 per cent each of shellac, and cetyl alcohol in acetone met all the requirements for a satisfactory coating, is easily manipulated, and a light application was fully effective.

Cellulose esters.—A solution containing cellulose acetate phthalate gave protection to the pills in gastric fluid for five hours and in alkaline intestinal fluid for ½ hour. Thin coatings only were needed.

RISEN FROM THE DEAD SEA

According to *Foreign Commerce Weekly* (Sept. 4, 1943), Palestine's greatly accelerated industrial achievements must remain secret until the end of the war. However, it may be said that the Dead Sea is yielding up its ages-old accumulation of chemical salts to aid the Allied efforts. Two plants draw the sea water into solar evaporating pans, where the rate of evaporation is speeded up by a secret process involving the addition of *coloring* matter to the water. Bromine, magnesium, potash and other chemicals are then produced from the raw materials provided through this improved method.

The report also briefly comments on the fact that research workers at the Hebrew University at Mt. Scopus at Jerusalem have initiated a new pharmaceutical industry. Indeed, at a recent exhibition of new Palestine products, some 800 different kinds of manufactured goods were displayed.

FLUORIDE DENTIN DESENSITIZER

Following a lead suggested by E. H. Lukomsky, a Russian investigator, W. H. Hoyt and B. G. Bibby tested the effectiveness of a series of sodium fluoride-containing mixtures for desensitizing dentin. In their paper in the *Journal of the American Dental Association* (30:1372, 1943), these workers report that the most satisfactory results were obtained with a 33 per cent paste consisting of: sodium fluoride 1 part, white clay 1 part and glycerine 1 part. Preliminary tests having shown the desensitizing efficacy of this 33 per cent paste, Hoyt and Bibby standardized their method of application as follows: After a preliminary cleansing with a pledget of cotton moistened with a 4 per cent sodium fluoride solution, the area to be treated is isolated with cotton rolls, cotton pledgets being used to remove free moisture. A small amount of the fluoride paste is then taken on the end of a small plastic instrument and placed on the tooth; the paste being rubbed on the sensitive tooth surface with the instrument, with concentration on any areas where pain (e.g. sensation of refrigeration) was encountered. This is continued until all sensation disappears, the time necessary ranging from one to five minutes. If, as occasionally occurs, the pain becomes acute, it is advised that the paste be washed off with a warm spray, after which a second treatment may be given without difficulty. When the pain disappears, the cotton rolls are removed and at the same time as much of the paste as possible is wiped off. This is followed by prompt washing with a spray and a thorough rinsing of the mouth by the patient.

Hoyt and Bibby reported that soon after the treatments with the fluoride paste were begun, it became evident that the results were "remarkably satisfactory." Teeth that had caused trouble for years ceased to be sensitive after short treatments. Patients began to request treatment of remaining sensitive teeth. It became obvious that, in its desensitizing effects, the sodium fluoride paste was greatly superior to any of the obtundents previously used. Tested on a well-controlled group of 70 patients, the paste gave complete and immediate desensitization in 54, required a second treatment in 2, gave partial desensitization in 6, a slight return of dentin sensitivity in 6, and failure in only 2 cases. The effects of this treatment was found to last for many months, the duration of relief varying with the individual patient. However, it is warned that since sodium fluoride is a toxic drug, the paste should be used with caution.

UREA-SULFONAMIDE MIXTURES FOR WOUNDS

In their article in *Surgery* (13:677, 1943), H. G. Holder and E. M. MacKay reported that urea (carbamide) acts in a number of ways to enhance the action of the sulfonamides. Among these is the removal by urea of gross sulfonamide inhibitors or of the source of such inhibitors in the form of necrotic tissue, pus and tissue exudates. Urea also increases the solubility of the sulfonamide drugs and if it had no other advantages, the authors feel that urea's value as a diluent for the sulfa drugs would be almost sufficient reason for its addition to these agents. In addition to these benefits, the degree of active cellular defense within the wound is aided by urea. Urea-sulfonamide mixtures have been employed most satisfactorily for first aid in contaminated traumatic wounds. Experience indicates that with the use of such mixtures, formal surgery may be safely delayed long after twelve hours have elapsed. Thus, in the handling of wounds resulting from military action this extended period during which a wound may be kept from becoming infected provides for delay in the evacuation of the wounded and their transportation to centers where adequate treatment can be given. It permits the adequate treatment of shock during the initial period, thereby making the patient the best possible risk for surgical treatment.

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ADVANCING THERAPY

VITAMIN B_6 IN DERMATOLOGY

C. S. Wright, M. H. Samitz and H. Brown (*Arch. Derm. & Syphil.* 47:651, 1943) gave pyridoxine (vitamin B_6) to a group of patients with sebhorrheic dermatitis, atopic eczema with seborrheic features and eczematous eruptions of unknown etiology. Previous treatment with ointments, lotions, radiation, or other measures were discontinued. Injections of pyridoxine in 25 to 100 mg. doses were given and the efficacy of this therapy was judged on the basis of subjective improvement, objective clinical observations, and the results of laboratory tests.

The immediate response in a great many patients following injections of pyridoxine were indeed striking; many of the patients expressing amazement at the results. Other patients with identically similar appearance clinically showed little or no response. From these results, the authors suggest that if vitamin B- complex therapy is to be of definite value in the treatment of dermatoses of the seborrheic or eczematous type, the pyridoxine content must be adequate.

ACETYLCHOLINE AND MYASTHENIA GRAVIS

Myasthenia gravis is described as a slowly progressive but fatal fatiguability and weakness of the muscles. An important contribution to the cause of this disease is given in the report of C. Tordo and H. G.Wolff in the September 3, 1943 issue of *Science*. Their investigations indicate that a defect in acetylcholine synthesis in the victims of this disease probably explains the fatiguability and weakness of these patients. Moreover, the decrease of acetylcholine synthesis is apparently specific for myasthenia gravis, since it does not occur with other diseases presenting debility, cachexia, immobility and prostration. It also appears from these investigations that the magnitude in defect of acetylcholine synthesis is related to the severity of the myasthenia gravis.

THIOURACIL FOR THYROTOXICOSIS

A new approach to the treatment of thyrotoxicosis, more especially hyperthyroidism, is offered in research going on with the thiourea derivative, thiouracil. It is a white crystalline powder which is readily soluble in sodium hydroxide, slightly soluble in water (1:-2000) and insoluble in ether, ethyl alcohol and acids. A relatively stable compound, either as a solution or a powder, thiouracil has no odor but does have a bitter taste.

For several months of preliminary investigation, R. H. Williams and G. W. Bissell (*Science* 98:156, 1943) have used thiouracil in the treatment of nine patients with thyrotoxicosis, all patients having typical manifestations of such disorder. The duration of illness ranged from six months to two years, except for one patient in whom the dysfunction probably had existed for twenty-two years. In most cases the thyroid gland was enlarged to two or three times normal size. The initial basal metabolic rate ranged from plus 88 to plus 36 with an average of plus 63. In each instance, the clinical evidence of thyrotoxicity had disappeared within from three to seven weeks following the institution of treatment with thiouracil. The basal metabolic rates had reached normal levels, the average rate being plus 1. Of interest is the fact that the severe cases improved as rapidly, or even more rapidly, than the milder cases. Moreover, no serious complications were encountered in any of these subjects.

The optimum dosage of thiouracil has not yet been ascertained, but investigations to determine the optimum concentration of the drug in the thyroid and the time required to attain this level are going forward.

TREATMENT OF INDUSTRIAL BURNS

In an effort to determine the local treatment of choice to be used in industrial burn cases, G. H. Collings, Jr. (*Indust. Med.* 12:301, 1943) made a comparative study of the agents in common use and the more recently developed burn-treating drugs. Working with a series of 96 cases, careful cleansing with a mild antiseptic was carried out and all dead tissue aseptically removed prior to application of the burn preparation. Four methods of treatment were tested: (1) a section of "sulfafilm," sulfanilamide in a dried parchment-like gelatin sheet, was cut to fit the burned area and softened in place with the cleansing solution; (2) sulfadiazine (2½%) in ethanolamines solution (Pichrell) was sprayed over the debrided area three times, at ten-minute intervals in order to permit each application to dry; (3) sulfadiazine powder was dusted over the debrided area, and a locally effective anesthetic ointment was applied with the dressing; and, (4) sulfadiazine (1½%) in ethanolamines solution with methyl cellulose applied with applicators or sprayed onto the debrided area and dried with a warm-air blower. A second and third coat were immediately applied in the same manner so that the dried methyl cellulose formed a flexible "form-fitting" film over the wound.

A comparison of the results obtained and an arbitrary classification according to healing, led Collings to the conclusion that of the several methods in-

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vestigated, 1½ per cent sulfadiazine in ethanolamines with methyl cellulose is the local treatment of choice for industrial burns since it results in the greatest comfort, rapidity of healing, and fewest number of retreatments.

SULFATHIAZOLE IN ORAL SURGERY

Working with a series of 100 routine cases of oral surgery, H. W. Helbraun (*J.A.D.A.* 30:1197, 1943) compared the effects of the prophylactic use of sulfathiazole with standard methods. Fifty patients were maintained as controls, receiving a saline mouth wash and acetyl salicylic acid sedation. The remaining fifty patients received sulfa therapy, the technic of administration being as follows: After each operation, the wound area was carefully swabbed free of blood and saliva. Then some coarse sulfathiazole powder, made by crushing a 7.7 grain tablet, was dusted into the sockets and bruised tissues with a large curet. For single extractions, one-half tablet was used, approximately 3.8 grains. However, in no case was more than 7.7 grains used.

Helbraun found that for controlling postoperative pain and infection in cases of slight trauma, sulfathiazole therapy is no better than the use of saline mouthwashes in conjunction with acetyl salicylic acid sedation. The incidence of complaints of postoperative discomfort and the rate of healing in both groups were approximately the same, the proportional differences being too small to warrant consideration.

However, under conditions of excessive trauma, sulfathiazole therapy decidedly reduces the amount of postoperative pain and tenderness, as shown by the control group, and also greatly hastens the healing of tissues. Not one case in the experimental group developed dry socket or other infection. One case in the control group did. Because the amounts used and absorbed were small, in no case did a patient exhibit any untoward general reaction to the sulfa drug.

SULFA DRUGS FOR COLITIS

The successful medical management of chronic ulcerative colitis, note M. A. Mills and T. T. Mackie (*Am. J. Digest. Dis.* 10:55, 1943), must be based on a study of deficiency states, disturbances of intestinal physiology, psychogenic focal infection and allergic states. However, the introduction of the sulfonamide drugs has presented new possibilities of attacking the factor of local infection in the colon in such cases. In other studies, sulfathiazole, sulfadiazine and sulfaguanidine were used in 109 patients with ulcerative colitis. Definite improvement was obtained with the drugs in 78 per cent of these cases. Sulfadiazine has proved to be the drug of choice for all variety of cases but sulfaguanidine is of definite benefit in the majority of cases without excessive diarrhea. Sulfaguanidine was of no value in fulminating cases but was better for long continued treatment. None of the drugs were considered by the authors as specific to the disease and none of the patients were considered to be cured by chemotherapy alone.

SULFATHIAZOLE IN TREATING PHARYNGITIS

In R. Fenton's paper on the local sue of sulfathiazole in the treatment of pharyngitis, published in the *Archives of Ololaryngology* (37:491, 1943), it is reported that sulfathiazole has been used locally in the form of a powder in the nose and throat for long periods of time. Sulfathiazole was preferred to the other sulfonamides because of its lower solubility in tissue fluids, which allows a high local concentration for prolonged periods. It was thought that a 5 per cent solution of the sodium salt produced side effects which were too disagreeable for comfort. Acute rhinitis, pharyngitis, and laryngitis were found to respond rapidly to the local application of finely powdered sulfathiazole. Gargling with a warm aqueous suspension of sulfathiazole was found to be of value in relieving local swelling and discomfort in the throat. The author found that best results were obtained in the treatment of nose and throat infections, including acute infection in the maxillary antra, with sodium sulfathiazole-desoxyephedrine solution which is nonirritating and effective.

REPORT ON PENICILLIN IN INFECTIONS

After a study of 500 cases of infection treated with penicillin, the Committee on Chemotherapeutic and other Agents of the National Research Council has issued a report on the place of this agent in the treatment of infections. It is the opinion of the Committee, as published in the *J.A.M.A.* (122:1217, 1943), that certain conclusions with regard to this substance are justified. The following are some of the conclusions presented:

Penicillin is a remarkably potent antibacterial agent which can be given intravenously, intramuscularly or topically. It is ineffective when given by mouth.

Following intravenous or intramuscular injection it is excreted rapidly in the urine, so that in order to obtain an adequate amount of potent material in the circulating blood and tissues it is necessary to inject penicillin continuously or at frequent intervals; that is, every three to four hours. Toxic effects are extremely rare. Occasional chills with fever, or headache and flushing of the face have been noted. Urticaria has been reported and thrombophlebitis at the site of injection has been described.

Penicillin has been found to be most effective in the treatment of staphylococcic, gonococcic, pneumococcic and hemolytic streptococcus infections. It has been disappointing in the treatment of bacterial endocarditis. Its effect is particularly striking in sulfonamide resistant gonococcic infections.

ALKALI THERAPY WITH SULFADIAZINE

Although the indicence of toxic reactions in general is lower with sulfadiazine therapy than with the other commonly employed sulfonamide drugs, D. R. Gilligan, S. Garb, C. Wheeler and N. Plummer (*J.A.M.A.* 122:1160, 1943) note that renal complications from this drug occur with sufficient frequency to demand particular attention. They found that crystalluria and evidences of renal damage or of urinary tract obstruction were not encountered in 350 patients in whom the urine was maintained neutral or alkaline by adjuvant alkali therapy during treatment with 6 Gm. daily of sulfadiazine or in smaller groups of patients receiving twice this dosage of sulfadiazine orally or sodium sulfadiazine intravenously.

These authors recommend 15.6 gm. daily of sodium bicarbonate (or amounts of other organic sodium salts with equivalent available base excess, e.g. sodium citrate and sodium lactate), divided into six doses of 2.6 gm. (40 grains) administered every four hours as the dosage usually appropriate to maintain the urine neutral or slightly alkaline during sulfadiazine therapy in adults. In addition to this measure for preventing renal complications, a sufficient volume of fluid should be given to provide a daily urinary output of 1,500 cc. or more.

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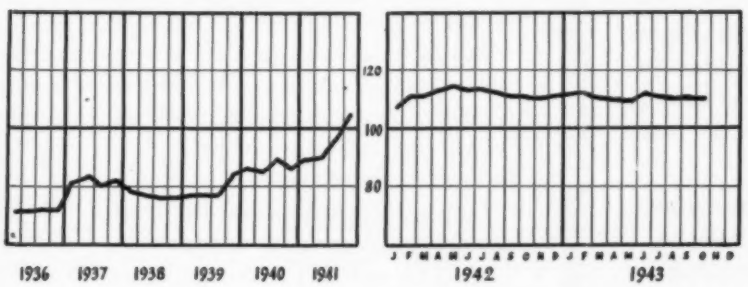
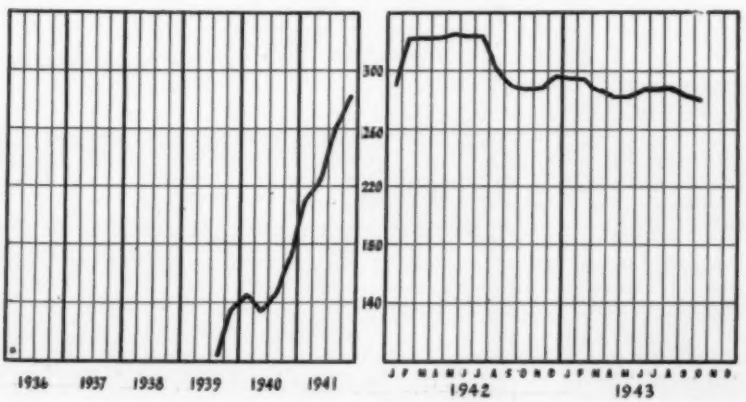
Rect. $1.25	Bourbon $1	Papain 20c
Citronella oil Ceylon 5c	Lavender oil 25c	Petit grain SA 10c
Cumin seed Morocco ¼c	Lemon grass oil 5c	Sarsaparilla root Mex. 1½c
Ergot 30c	Orange oil cold pressed 75c	Sassafrass oil Artificial 25c

25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.



The cosmetic raw materials index remained without change at 113.2. Menthol continued to be the subject of most conversations in the trade. Considerable mystery continued to prevail as to whether or not Brazil would furnish the supplies necessary to relieve this hard pressed market. Lack of definite information from the primary market, however, resulted in varied and confused reports.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index declined to 282.9 from the previous 284.2. Ergot was responsible for the decline in this group the spot price having moved to $1.20 a pound from the previous $1.50 level. The price position as a whole, however, continues very firm. Domestic crude drugs were underproduced this year. Receipts from abroad continued restricted.

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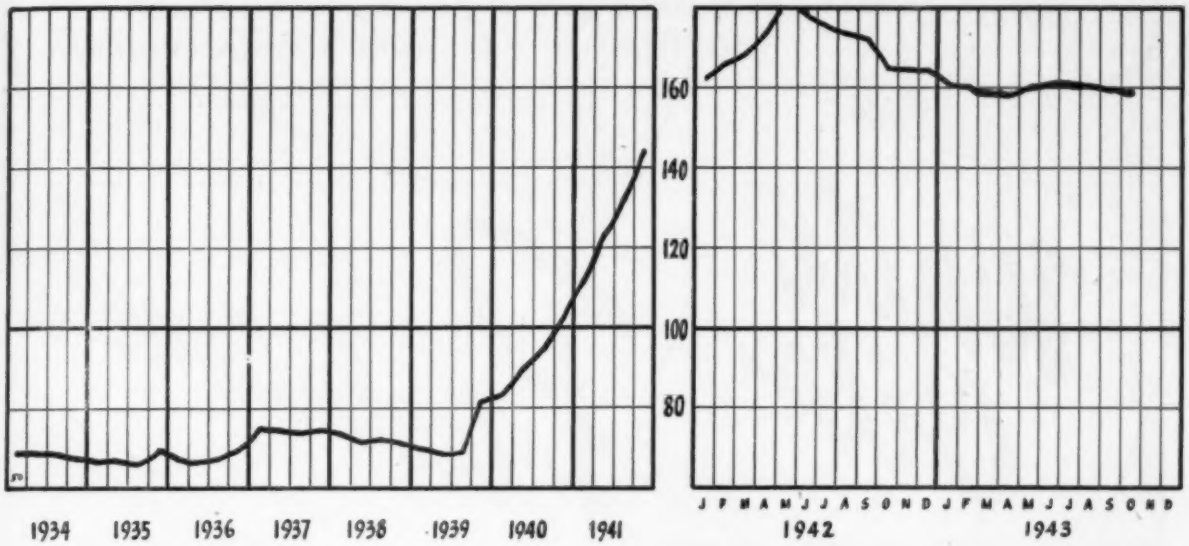
50 Raw Materials—Weighted Price Index. 1926=100.



The price index of fifty commodities for September, 1943, declined to 158.5 from the previous 160.1. As previously predicted, the opening of the Mediterranean to Allied shipping has already had a beneficial effect on raw materials from that area. Large shipments of gum arabic are already arriving from the Anglo Egyptian Sudan. As time moves on such items as rose, licorice, tragacanth, oak moss, bergamot, geranium, mandarin, petitgrain, quince seed, etc. should become more generally available.

• Prices quoted in this section were current on the first of this month.

MINT OILS

Adverse weather conditions—too much rain in the Spring and dry weather in the following months—has lowered the yield of mint oils this year 10 pounds per acre below that of last year, according to the Crop Reporting Board of the United States Department of Agriculture. Production of peppermint oil was estimated by the board at 885,000 pounds, against 1,365,000 pounds last year, and spearmint oil, 223,000 pounds, against 335,000 pounds a year ago.

Production of peppermint oil by States was forecast as follows:—

	Pounds	
	1943	*1942*
Indiana	266,000	554,000
Michigan	296,000	498,000
Ohio	4,000	6,000
California	32,000	31,000
Oregon	133,000	144,000
Washington	154,000	132,000
Totals	885,000	1,365,000

Spearmint oil production this year and last was estimated as follows:—

	Pounds	
	1943	*1942*
Indiana	165,000	234,000
Michigan	57,000	96,000
California	1,000	5,000
Totals	223,000	335,000

War Food Administration on September 13th froze all stocks of peppermint oil as of that date. Those who used oil in 1941 and have stocks now are permitted to use current stocks in any given 1943 period up to 30 per cent of the quantity used in the corresponding 1941 period. Stocks of those who produce, deal in, or distribute oil are apparently frozen 100 per cent.

The reason given for the order was said to be the unsuccessful efforts of the government to buy 125,000 pounds of peppermint oil in the open market. This was intended for Lend-Lease.

A difference of opinion prevailed as to the carryover stocks of peppermint oil, some factors estimating it at as high as 175,000 pounds, while others said there were no leftover stocks.

Normally, between 300,000 and 325,000 pounds of peppermint oil are exported, mainly to Great Britain. In the period January/July, 1943, 136,155 pounds for lend-lease were exported by the War Food Administration. WFA recently called for bids on 125,000 pounds for lend-lease, all of which was destined for England. All but a small amount was alleged to be for pharmaceutical use. Washington now says this British request is going to be reduced in the same ratio that other users are to be cut in the coming allocation. From data now available, the statistical position of peppermint oil seems approximately as follows: crop 1943, 885,000 pounds, estimated carryover 175,000 pounds, or a total of 1,060,000 pounds. From this total should be deducted export requirements of 163,845 pounds, leaving approximately 896,155 pounds available for home consumption.

While these figures are approximate they are within reason when based on government statistics. If there is no carryover, stocks for home use would be 175,000 pounds less.

Holders of oil must report their stocks under terms of the freezing order of WFA. Future allocations will be based on the figures set up. When the estimate is made of the amount of oil that will be available for the ensuing year, a certain percentage will be allocated for the food

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industry and a certain percentage for the drug industry. That which is to be allocated to the drug industry will include, of course, the oil of peppermint that is used in manufacturing menthol.

Price trends which are said to have threatened to break current price levels and to disrupt normal marketing of peppermint and spearmint oils were acted upon September 24th by the Office of Price Administration. A new price regulation for the first time places a ceiling over grower-producers' prices for these commodities.

The specific new ceilings established in the measure, MPR 472, generally are the going prices, which are approximately 50c per pound higher for natural oils of peppermint and spearmint than prices obtained by producers during the 1942 season. Reduced crop yields and increases in labor and other costs justified the upward adjustment, OPA stated.

The regulation, which became effective September 30, 1943, also covers dealers' sales and provides an upward adjustment of about 10 per cent over their present GMPR ceilings to reflect the increase granted to producers.

The measure applies only to the natural oils of peppermint and spearmint and U.S.P. redistilled oil of peppermint. The producer/grower prices established are $5.50 per pound for peppermint and $3.50 per pound for oil of spearmint. Dealers' prices, reflecting their customary margin over producers' prices, are set at $6 per pound for natural oil of peppermint, $4 per pound for natural oil of spearmint and $6.35 per pound for U.S.P. redistilled oil of peppermint. Fractionated oils and fancy grades redistilled by the trade are continued under the provision of the general maximum price regulation.

Dealers, however, may continue to exercise their option of pricing under the general maximum price regulation in cases where such ceilings may be higher than those set in today's action. Maximum prices for dealers' sales in smaller quantity lots, at the customary differentials for smaller sized packages, are also provided.

GLYCERIN

The War Food Administration has announced that a limited quantity of glycerin will be released beginning October 1 to a group of industrial users who have been without it since March when the production was diverted largely to the war program. Those who will share in the small quantity to be made available include manufacturers of dentifrices, flavors, shaving creams, tablet and pad adhesives, tobacco, shortenings, crown caps, and protective coatings.

While glycerin is an essential product in war materials, inventories now are at a satisfactory level due to generally improved shipping conditions and the prospects of expanded production of soap for the synthetic rubber program. It is emphasized, however, that fats still are urgently needed for this expanded soap production as well as for the production of other essential war materials.

The delivery and use of the product is subject to food distribution order No. 34, and industrial users who desire a share of the quantity to be released should make application to the Fats and Oils Branch, Food Distribution Administration, Washington 25, D. C.

GUMS

The market period under review witnessed the arrival of large shipments of gum arabic. The situation as far as this gum is concerned seems definitely to have opened up. Shipments are now possible from the Anglo Egyptian Sudan via the Mediterranean and Gibraltar thereby considerably shortening the long and dangerous haul via the Canal and the Indian Ocean. Spot prices were easier for amber sorts at 15c to 15½c per pound.

This situation does not prevail, however, as far as karaya gum is concerned. Supplies are definitely short on spot, the shipping situation very uncertain, and the future confused.

Gum tragacanth is also in a very tight position. Prices continue at high levels. The primary market is subject to manipulation and control and there is considerable speculation on the part of foreign factors who have no real justification for their influence over this commodity.

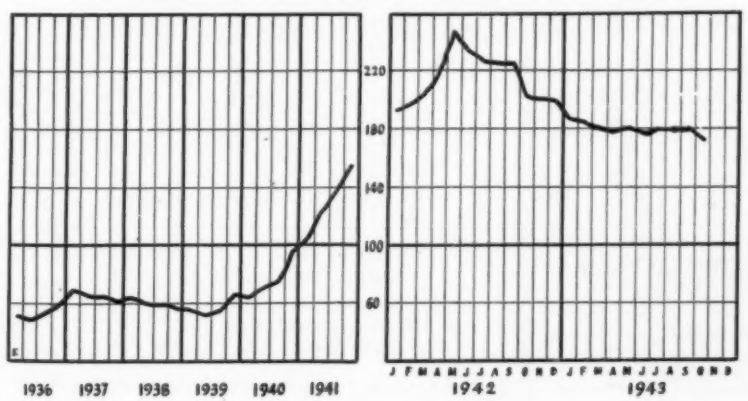
PYRETHRUM

Pyrethrum plantings in Chile amount to approximately 40 acres.

The 1942 output of pyrethrum powder is reported as 40,000 kilograms. Considerable quantities were sent to Argentina and some to Cuba, and small shipments were made to a number of other countries.

It is hoped to produce 200,000 kilograms of pyrethrum from the 1943-44 harvest, to be available for shipment in April 1944. The entire output will be purchased by the Commodity Credit Corporation.

15 Essential Oils—Weighted Price Index. 1926=100.



The essential oil index declined to 181.7 from the previous 186.4. Cananga was down sharply to $8.50 a pound; citronella dropped 5 cents to $1; eucalyptus oil also declined 5 cents a pound to $1; geranium was lower at $11.50; lavender was off 25 cents to $7.50. The only advance in the group making up the index was peppermint oil which rose 50 cents to $6. The freezing of peppermint oil and the fixing of ceiling prices was the outstanding development of the market.

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MERCURY

An appreciable easing in domestic supplies of mercury due to increased production, completion of Russian requirements, and a safe stockpile, permitted the War Production Board to allow increased amounts of this material to various classes of users.

Conservation Order M-78 as amended removes from prohibited List "A" use of mercury for preparations for film developing, threating of green lumber, preparation of vermilion, manufacture of wall switches, wood preservation, thermometers and marine anti-fouling paint. These items are now placed in List "B" with the allowable use restricted to certain percentages of the base period totals.

Employment of the metal for agricultural uses, health supplies, safety and technical equipment has been transferred from List "B" (uses which permit utilization up to 100 per cent of the base period total) to the category of unrestricted use.

Other products in List "B," such as mercuric fulminate for blasting caps, mercury for industrial and scientific thermometers have their current percentages increased to 200 per cent of the base period total.

ORANGE OIL

Quotations on domestic orange oil are believed to be more in line with present conditions prevailing in the market as the result of the late reduction announced by the California Fruit Exchange.

There is still considerable oil available on spot but some trade factors are looking for a steadier market since some lots of Brazilian oil have been available at considerably below replacement costs.

The spot price of California orange oil, cold pressed, "Exchange Brand" is now $1.50 per pound in 25 lb. cans.

American distilled oil is offered at the attractive level of 75c per pound.

VANILLA

Considerable activity has developed in vanilla beans. This is mostly centered on the Bourbon variety since it was learned that approximately 108 tons are en route here on a fast American vessel from Madagascar. This has led to speculation as to whether the shipping situation in the Madagascar area has definitely opened up. Unfortunately this is not the case. The shipment in question was occasioned by circumstances the nature of which cannot be discussed for military reasons. It is regularly conceded that a regular steamer service from Madagascar to the United States is not possible under present conditions.

It is not likely that the arrival of this sizable shipment of Bourbon vanilla will upset the spot market as stocks of all grades here are small. It is also stated that approximately 50 per cent of the beans to arrive have already been sold into consuming fields.

Mexican vanilla beans from the last crop have been fairly well liquidated and the supply of Tahiti beans is reported getting low. It is understood, however, that a steamer will shortly leave Tahiti with fair quantities abroad.

AGAR

Wayne Umbreit, assistant professor of agricultural bacteriology at the University of Wisconsin, has developed a substitute for Japanese agar, a gelatinous substance used in bacteriology as a solidifying agent in culture media. Imports of agar, upon which bacteriologists had been dependent for many years, were cut off by the war.

After failing to find a satisfactory substitute among several American made materials, Professor Umbreit made an excellent bacterial jelly from carragar, obtained on the New England Coast.

Agar and carragar are both produced in this country from sea weed, Professor Umbreit said. However, before Pearl Harbor, the Japanese took the raw material from the Pacific Ocean off the California Coast, shipped it to Japan and processed it at a cost with which American manufacturers were unable to compete.

The new jelly is better than the old because it dissolves readily in water. Users of the old type had to wash the bacteria off the jelly with great care. Now they simply dissolve the whole mass, assured that the bacteria will be carried with it onto the seed.

IPECAC

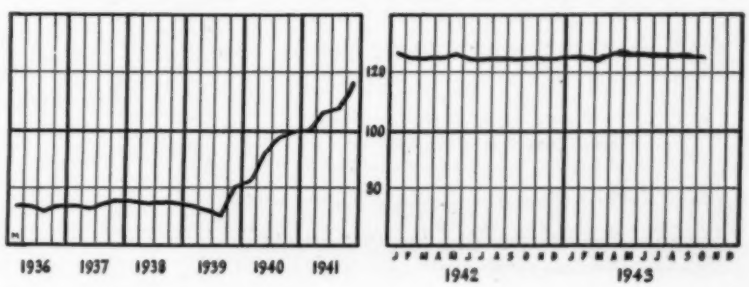
The spot position of ipecac continues to give concern to factors here. The ceiling price on imports from Brazil, it is said, has been detrimental to imports from that country. In order to overcome the price position here, producers of ipecac in that country are manufacturing emetine for shipment to world markets, instead of shipping the raw material as in the past.

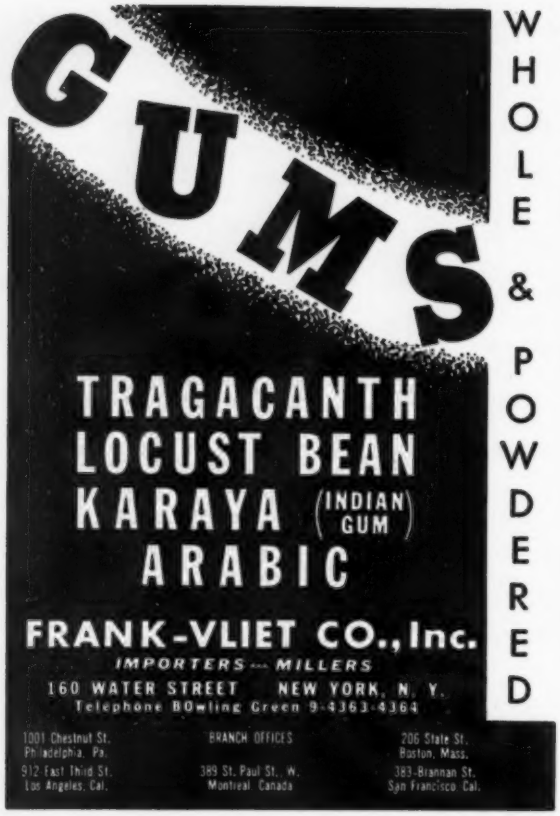
Production of ipecac in Nicarauga and Costa Rica has all but stopped, it is reported. This is due almost entirely to the labor situation there. Collectors are working on the rubber plantations at much higher wages than can be obtained from the ipecac producers. As a matter of fact, the government in these countries have issued orders that if anything interferes with the production of rubber it must be discontinued.

The result of these conditions in the primary market for ipecac is such that importations of this important commodity so far this year are only 25 per cent of normal. No relief is in sight. Spot market prices ranged from $1.75 to $1.95 per pound as to grade and quality.

The medicinal chemicals index remained without change at 126.3. Of importance in this group was the easing in domestic supplies of mercury due to increased production and completion of Russian requirements. Glycerin also became more generally available, restrictions having been eased in some fields which had suffered materially from the lack of this commodity.

15 Medicinal Chemicals—Weighted Price Index 1926=100





Australian Oils

(*Continued from page 393*)

santali Alba. The French Codex Commission also made the Australian oil official in the French Codex of 1926. Despite many efforts on the part of the West Australian producers, the American Pharmacopoeia does not recognize the oil.

BORONIA FLOWER OIL

BOTANY, HABITAT AND RANGE

Boronia megastigma Nees (fam. *Rutaceae*) is one of about fifteen species of the genus *boronia*, indigenous to Western Australia. The flowers are brown on the outside of the petals, golden yellow on the inside and carry a strong perfume which can be extracted with volatile solvents.

Under favorable conditions, the plant grows four to five feet high but occurs, in more open country, as a widespread bush 18 inches to 2 feet high. During dry years, the blooming season occasionally extends only from 3 to 4 weeks while, in normal years, it lasts 2 months. Boronia generally begins to flower toward the end of July or beginning of August and is available for the extraction of the flower oil up to mid-September, according to the latitude.

Boronia megastigma occurs in the extreme southwest section of Western Australia, from Collie southward. It grows wild in swamp lands and often in water, for instance, in the paper bark tree thickets of the Australian southwest. For this reason, it is not subject to bush fires. Seasonable influences may, however, cause variations in the yield of blossoms. Boronia seems to thrive best in soils where decomposing organic material and waters charged with tannin are most prevalent. In fact, when cultivating boronia in private gardens, it has been found that the best results may be obtained by continually dressing the soil with tea leaves and similar tannin containing materials.

The method employed by the manufacturers of boronia flower oil is to establish agents in charge of centrally located depots in the boronia districts of Australia's extreme southwest. The flower collectors deliver their blossoms daily to these stations. The actual gathering of the blossoms is generally performed by means of combs, whereby the tender stalk of the flowers is easily severed. Impurities, such as leaves and stalks, are removed by shaking the blossoms over blankets stretched at an angle of 20 to 25°. The blossoms being round, roll off the blankets and the needle shaped leaves and stalks are retained by the hair of the blankets. After inspection, passing and weighing at the station, the day's harvest is transferred to drums of sixty gallon capacity containing sufficient quantities of volatile solvents (petrol ether) with which the extraction is carried out. These solvents act at the same time as a preservative while the blossoms are in

transit. Thus, the drums, containing the blossoms and the solvent, are transported to the factory where the extraction is completed and the solutions concentrated in vacuo. The resulting concretes consist of the volatile oil and the natural flower waxes which are also extracted by the volatile solvent process. In order to obtain the alcohol soluble absolute, it is necessary to remove the waxes according to the well-known methods employed in Grasse (Southern France).[21]

One thousand pounds of boronia blossoms yield about 66 ounces of absolute which quantity represents 60 per cent of the weight of the concrete.

PHYSICO-CHEMICAL CONSTANTS

Concretes of *Boronia megastigma*, investigated by Penfold and Phillips[22], showed the following constants:

M. P.	35 to 41°
Specific Gravity at 15° C.	0.8989 to 0.9189
Refractive Index at 38° C.	1.4752 to 1.4852
Acid Value	22.8 to 30.5
Ester Value	95.9 to 109.3
Ester Value after Acetylation	136.5 to 149.0

The concrete has a butter-like consistency; because of the content of chlorophyll it possesses a green color.

CHEMICAL COMPOSITION

When distilling forty grams of boronia concrete at 2 to 3 millimeter pressure, Penfold and Phillips[23] obtained 1 cc. of volatile oil in the fraction 80 to 120° C. and 6 cc. of volatile oil in the fraction 120 to 140° C. The second fraction seemed to contain high boiling alcohols and ketones. The highest boiling fractions possessed the typical odor of β-ionone and yielded a semicarbazone the melting point of which (145 to 146° C.) coincided with that of synthetic β-ionone (m. p. 148 to 149° C.) Later, Sabetay[24] also succeeded in identifying β-ionone in boronia flower oil. M. p. of the semicarbazone 149° C.; m. p. of the p-bromo phenyl hydrazone 120° C.; confirmed by a mixed melting point determination. Since the presence of β-ionone has never been observed in any other natural flower oil or essential oil, Sabetay expressed the opinion that the β-ionone identified in boronia flower oil may have been added as an adulterant.

Penfold and Phillips[25] identified in the concrete of boronia also a number of other constituents among them triacontane (m. p. 64° C.), a glyceride of palmitic and stearic acid, phytosterin, free palmitic, formic and caprylic acid, small quantities of ethyl alcohol, ethyl formate and phenolic constituents which were not further identified.

EMPLOYMENT

The odor of boronia flower oil is rather distinctive and novel. It suggests violet and cassie, in conjunction with fruity notes such as peach and apricot. The odor is lasting, and therefore the absolute of boronia forms an excellent base for perfumes of entirely new and alluring tonalities.

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OIL OF ARAUCARIA

Although not a tree native to Australia, the essential oil of araucaria may be included in the group of West Australian oils as the wood is distilled mainly in Western Australia, after it has been imported from New Caledonia.

Callitropsis araucarioides (fam. *Pinaceae*) is a tree growing to a height of about thirty feet and confined to a rather limited locality of New Caledonia where it occurs on serpentine rock at an altitude of about 800 feet.

The whole tree, including the branches, is used for distillation purposes; steam distillation yields about 6 per cent of an essential oil which possesses the appearance and consistency of honey. The odor is soft, balsamic, somewhat reminiscent of guaiacwood oil.

PHYSICO-CHEMICAL CONSTANTS

According to Mr. H. V. Marr, of Plaimar Ltd., Perth[26], the constants of commercial oils vary between the following limits:

Specific Gravity	0.9760 to 0.9765
Optical Rotation	+14° to +18°
Refractive Index	1.5090
Ester Value	12 to 15
Solubility at 20° C.	Soluble in 1 to 4 volumes of 70% alcohol, occasionally soluble even in 60% alcohol.

Oils distilled experimentally (yield 6 to 7.5%) in the Technological Museum of Sydney[27] showed the following constants:

Specific Gravity at 15° C.	0.9606 to 0.9684
Optical Rotation	+6.9° to ? (not recognizable)
Refractive Index at 20° C.	1.5131 to 1.5181
Ester Value	64.5 to 92.15
Ester Value after Acetylation	171.54 to 207.28
Solubility	Soluble in 1.4 to 1.6 volumes of 70% alcohol.

Distillation at 10 millimeter pressure gave the following fractions:

105 to 130°	5%
130 to 140°	8%
140 to 150°	23%
150 to 165°	60%

Three shipments of oil from West Australia examined in our New York laboratories showed the following constants:

	I	*II*	*III*
Specific Gravity at 15° C.	0.981	0.980	0.980
Optical Rotation	+17°12′	too dark	too dark
Refractive Index at 20° C.	1.5088	1.5102	1.5103
Acid Value	2.8	2.8	2.0
Ester Value	18.7	14.9	13.9
Ester Value after Acetylation	181.1	179.2	177.8
Solubility at 20° C.	Soluble in 3.5 to 4 volumes and more, of 70% alcohol.		

CHEMICAL COMPOSITION

The chemistry of araucaria oil was investigated in the Technological Museum of Sydney[28]. The following constituents were identified:

eudesmol — This sesquiterpene alcohol (m.p. 79 to 80° C.; $\alpha\ D_{10}^{\circ} + 37.79$) is the main

constituent of araucaria oil. The oil investigated in the Technological Museum, Sydney, contained from 50 to 70% of eudesmol. It can be isolated by freezing and purifying.

a sesquiterpene probably eudesmene phenols

About 1 per cent of phenols are present in the oil.

the geranyl ester of a dehydro geranium acid

The original investigation, as carried out in the Technological Museum, of Sydney, established the presence of the geranyl ester of an acid $C_{10}H_{14}O_2$ (m. p. 183 to 184° C.). Later Cahn, Penfold, and Simonsen[29] found that this acid was a dehydro geranic acid (m.p. 185 to 186° C.).

EMPLOYMENT

Because of its viscosity and high boiling range in conjunction with a soft, balsamic, slightly rose-like odor, the oil forms an excellent, almost neutral fixative in the scenting of soaps and cosmetics. The exceptionally good solubility permits the employment of araucaria oil as fixative also in handkerchief perfumes and lotions. The true merits of this interesting oil have not yet been generally recognized.

HUON PINE WOOD OIL

The so-called Huon pine, *Dacrydium franklinii* Hook. (fam. *Taxaceae*) grows prolifically in Tasmania, New Zealand, New Caledonia and in the Malayan archipelago. In Tasmania, the sawdust and chippings obtained in the sawmills, are steam distilled whereby about 0.5 per cent of a volatile oil is obtained. The total yearly production, previous to the war, amounted to about 1,200 gallons. The oil is exported mainly from Perth (W. A.).

PHYSICO-CHEMICAL CONSTANTS

An oil analyzed in the Imperial Institute of London[30] had the following constants:

Specific Gravity at 15° C.	1.040
Optical Rotation	− 3.75°
Refractive Index	1.533
Acid Value	0.8
Ester Value	0.9
Ester Value after Acetylation	11.2
Solubility	Soluble in 1.5 volumes of 70% alcohol.
Distillation Range	Ninety per cent of the oil distilled between 250 to 253° C. at 755 mm. pressure. This fraction consisted mainly of methyl eugenol.

The constants of several samples examined by Messrs. Schimmel and Company[31] varied between the following limits:

Specific Gravity at 15° C.	1.0406 to 1.0470
Optical Rotation	+1°21′ to − 1°16′
Refractive Index at 20° C.	1.53037 to 1.53446
Solubility	Soluble in 4.3 to 4.8 volumes and more of 60% alcohol.
Distillation Range	Sixty per cent of the oil distilled between 252 to 255° C., and 30% between 255 to 260° C., at 770 mm. pressure.

Two authentic samples secured by the writer in Australia and analyzed in our New York laboratories showed the following constants:

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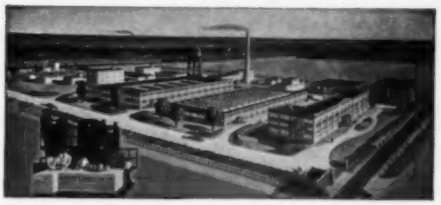

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	I.	*II.*
Specific Gravity at 15° C.	1.046	1 042
Optical Rotation	+0°40′	+1°10′
Refractive Index at 20° C.	1.5347	1.5334
Free Phenol Content	0%	0%
Solubility at 20° C.	Soluble in 4 to 4.5 volumes and more of 60% alcohol.	Soluble in 4 to 4.5 volumes and more of 60% alcohol.

CHEMICAL COMPOSITION

The chemistry of Huon pine oil was investigated by Baker and Smith[32] who found that the oil contains a very high percentage (97 to 98 per cent) of *methyl eugenol*. Only traces of eugenol are present. The high boiling fractions give the color reaction of *cadinene*. Huon pine oil is the only essential oil known so far which consists almost entirely of methyl eugenol.

EMPLOYMENT

Because of this fact the oil possesses, according to Penfold[33] a phenol coefficient of 10 to 12 and a high antiseptic value. Under the trade name of "Dacrydol" it is used as a dressing for suppurating wounds, etc. The oil is also employed in medicinal soaps and in toilet waters. It is furthermore used as a preservative in the preparation of casein paints where it acts as a dispersing agent of casein.

Because of its high methyl eugenol content, Huon pine oil may serve as starting material for the manufacturing of vanillin.

HUON PINE LEAF OIL

While the wood oil has reached a certain industrial importance, the oil distilled from the leaves is only of scientific interest. The leaves yield about 0.3 to 0.75 per cent of an essential oil which, according to Baker and Smith[34] and according to Penfold and Simonsen[35] consists mainly of terpenes (l-α-pinene, β-pinene, d-limonene, d-Δ^4-carene), and some methyl eugenol.

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Veterinary Products

(Continued from page 391)

Potassium hydroxide	4.10	per cent by weight
Boric acid	10.05	" " " "
Oil of camphor	13.20	" " " "
Oleic acid	2.50	" " " "
Water, to make	100.00	" " " "

Dipping is another widely employed, efficient and effective method of protecting livestock against the discomforts and dangers of inside parasites. Especially valuable for treating large herds and flocks, the composition of these dips varies somewhat not only with the species of insect being combatted, but may also vary with the kind of animal being treated.

Thanks to what was probably the most extensive and sustained campaigns ever waged against a dangerous parasite, the cattle fever tick has been practically eradicated in the United States, and once appalling livestock losses from this insect almost eliminated. The so-called sheep tick, which is really a fly, is still a menace however, and its control by dipping helps to prevent damage to valuable fleece. Various types of dips are employed for this purpose. Where animals are dipped twice, nicotine-dips, coal tar-creosote dips and cresol dips are employed, while in single dipping procedures such materials as fused-bentonite-sulfur-cube, arsenic-sulfur-rotenone, and derris or cube dips are employed.[2]

Rotenone and rotenone sources such as derris and cube are coming into wider use in cattle dips because of their excellent insecticidal properties. An example of such usage in sheep dips is given in the following formula as presented by Mason:[10]

Derris extract	3 parts
Cresylic acid	8 parts
Ammonium oleate	49 parts
Hydrocarbon (mineral) oil	940 parts

Often prepared by the cattleman just prior to dipping, rotenone-bearing materials are also employed in dips for ridding cattle of lice. One such, considered by experts in the Department of Agriculture[2] to be practical, safe and very efficient consists of: 325-mesh or finer wettable sulfur, 100 pounds; either cube or derris containing not less than 5 per cent of rotenone, 10 pounds; water 1,000 gallons. With such dipping mixtures and a specific schedule for dipping it is often possible to completely eradicate lice on cattle, thereby eliminating another annoying animal pest.

The eradication of mange and scab mites call for somewhat different types of dips. Thus in the treatment of scabies in sheep, lime-sulfur dips and nicotine dips are considered to be the most effective.[11] An example of a typical lime-sulfur dip is as follows:[10]

Quick lime	8 parts
Flowers of sulfur	18 parts
Water	74 parts

The mixture is boiled for one hour, and then the water lost by evaporation is replaced. After settling, the

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clear solution is drawn off. This is diluted with water in the proportion of 1:10 for sheep dipping. If hydrated lime is employed, the quantity should be increased to 11 parts.

Such lime-sulfur mixtures are also recommended for the control of mange and scab in other livestock such as horses, cattle and goats.[5] In all cases these dips must be used with care to avoid injury to the animals being treated.

Mange is a common and distressing skin affliction of animals caused by various mites. It appears that each species of domesticated animal has its own peculiar varieties of mange mites and that most of the mites from one species of animal cannot live and propagate permanently on a different animal species. An exception to this rule, however, are the sarcoptic mites which burrow into the skin. These mites can be transmitted from one animal species to another, and some of them can even be transmitted to humans.[2]

With large numbers of animals, dipping is of course the most efficient method for treating mange. This is not always practical where only a few animals must be treated or protected, as on small farms or the like. Nor can dipping be applied to house animals such as cats and dogs or to domesticated fur-bearing animals. Hence, there is a need for medicinal preparations for more direct application.

Not all forms of mange are equally amenable to treatment, but sarcoptic mange generally responds to proper local therapy. In most of the effective treatments, sulfur is the active ingredient, as in the following sarcoptic mange ointment for horses:[5]

Ammoniated mercury	18.5 Gm.
Sublimed sulfur	185.0 Gm.
Phenol	23.0 Gm.
Lard	773.5 Gm.

When dogs, cats, foxes, rabbits or the like are being treated for sarcoptic mange, preliminary bathing and scrubbing to remove all crusts and scabs is an essential requisite. In most instances it is advisable to apply the medication to only one-fourth of the animal's body each day. At the end of a four-day course of treatment the animal is again bathed and the routine repeated until cure is obtained.

One simple ointment that often gives good results consists only of:

Flowers of sulfur	1 part
Lard	8 parts

Another quite effective preparation, given in the same source[2] as the above, is made from:

Sublimed sulfur	2 parts
Oil of tar	1 part
Potassium carbonate	1 part
Lard	8 parts

Rotenone-containing derris has also been effective in treating this condition. An ointment consisting of

1 part by measure of derris (containing 5 per cent rotenone) in 10 parts of petrolatum or olive oil has been recommended. A wash, made from:

Derris powder (5% rotenone)	4 oz.
Neutral soap	1 oz.
Water (warm)	1 gal.

has been found highly effective. Well rubbed in with a brush, blotted with a towel and then permitted to dry on the skin; it is said that only two or three treatments are needed to effect a cure.[2]

Ear mange is fairly common condition in these smaller animals and is caused by mites which live in the external auditory canal. Because the mites are more readily accessible, ear mange is readily amenable to treatment. After clearing the ear canal of wax and other materials, the canal is swabbed with any one of several suitable mixtures. For dogs simple preparations such as: 1 per cent phenol in glycerine; or 5 per cent phenol in castor oil or olive oil; or a mixture of 1 part of carbon tetrachloride and 3 parts of castor oil may be applied. The derris ointment mentioned above is also useful.

For ear mites in goats, Hearle[8] suggests that an ointment of flowers of sulfur in sweet oil is both economical and effective. For foxes, he recommends the use of equal parts of tincture of iodine and glycerine. Another composition, advocated by Lee[12] for eradicating ear mites in these valuable fur animals, consists of:

Iodoform	1 part
Ether	10 parts
Cottonseed oil	25 parts

In addition to insect-caused skin affections, animals are also subject to dermatological conditions of bacterial or fungal origin. Ringworm is fairly common, especially in cattle and horses, but for this condition iodine or simple iodine-containing compositions usually suffice. However, O'Neal[13] has found that even though tincture of iodine is quite effective for treating cattle ringworm, a mixture of equal parts of tincture of iodine, glycerine and chloral hydrate appears to be more efficient.

Animal eczema is also quite responsive to proper treatment. One preparation, a lotion developed by Hilton,[14] has proven effective for the therapy of various skin conditions of the eczematous type in animals. It contains:

Alcohol	50 cc.
Glycerine	200 cc.
Tragacanth (ribbons)	8 Gm.
Menthol	2 Gm.
Methyl salicylate	2 cc.
Salicylic acid	10 Gm.
Resorcin	20 Gm.
Distilled water, to make	1000 cc.

Injuries of animals such as cuts and abrasions require attention if infection is to be prevented. In the main simple antiseptic preparations will suffice and

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pharmaceutical elegance is not a major consideration. One simple mixture, frequently mentioned for general use, is called BIPP because it contains bismuth subnitrate, iodoform and liquid petrolatum in the following rather typical proportions:

Bismuth subnitrate	1 part
Iodoform	2 part
Mineral oil	sufficient

Somewhat similar is a veterinary dusting powder for superficial wounds and raw surfaces:[5]

Bismuth subnitrate	275 Gm.
Tannic acid	140 Gm.
Iodoform	80 Gm.
Activated charcoal, to make	1000 Gm.

Other preparations for treating more specific types of injuries are recommended from time to time in the veterinary literature. For example, De Vine[15] has recommended the following preparation, to be applied on saturated cotton and then bandaged; for treating cracked heels, irritations and chronic scratches about the legs of horses:

Tincture of iodine	1 dr.
Phenol	3 dr.
Glycerine, to make	4 oz.

Although up to this point, this discussion has been devoted to external preparations for use in animal care, it is self-evident that internal remedies play an important part in veterinary practice. Of the many preparations given by mouth to animals, perhaps none rate the importance of agents for eliminating parasitic worms. Many anthelmintic drugs are used for this purpose, but their administration must be based upon exact knowledge of their pharmacologic action upon both the host and the parasite. Drugs and chemicals such as carbon disulfide, carbon tetrachloride, wormseed oil, santonin, hexylresorcinol and others have been administered to eliminate worms against which they have a more or less specific action.

During recent years, however, phenothiazine has grown in importance as an anthelmintic. Considered one of the most outstanding developments in modern

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veterinary science,[16, 17] phenothiazine is the closest approach to the ideal anthelmintic for animals yet discovered.[2] It may be administered by capsule, by stomach tube, by mixing with suitable feedstuffs, and it may be made into a suitable suspension for use as a drench.

As pointed out by Auchter,[18] Research Administrator of the U. S. Department of Agriculture, in a speech last year, "One of the remarkable things about phenothiazine is that it is effective for a considerable range of internal parasites in various classes of animals, whereas most anthelmintic are quite specific and limited in their usefulness. In addition, it can be administered more easily and conveniently than most anthelmintics. All in all, phenothiazine promises to be one of the most valuable aids we have in combating worm parasites, which as you know are a major enemy of livestock production."

Already recognized as an efficient insecticide,[19] the work of Telford, Longwell and Munro,[20] has recently shown that cattle lice are effectively destroyed by phenothiazole dusting preparations. Experiments showed that excellent control of both sucking and chewing lice could be obtained by the use of a mixture of:

Phenothiazine	1 part
White flour	1 part
Sodium fluosilicate	2 parts

These workers feel that effective control may be achieved by increasing the diluent and decreasing the quantity of active ingredients. Work along these lines is under way. The importance of this discovery is evident when it is realized that both rotenone, and pyrethrin, both effective against lice, are available in only limited quantities.

It should be evident that this discussion merely indicates the many types of animal products which the pharmaceutical and chemical manufacturer can provide for the farms and ranges of the country. Numerous other suggestions await exploitation by the alert producer and distributor.

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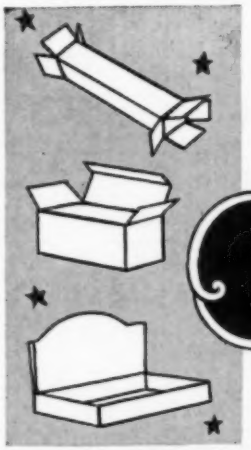

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{Index to Advertisers}

Abbott Laboratories....455
Allied Products, Inc....370
Aluminum Seal Co....Insert between 380, 381
American Colloid Co....463
American Cyanamid & Chemical Corp....Insert facing 376
Anchor-Hocking Glass Corp....373
Andresen, J. C....431
Ansbacher-Siegle Corp....454
Aridor Co., The....352
Armstrong Cork Co....371

Baker Chemical Co., J. T....Insert facing 408
Benzol Products Co....450
Bridgeport Metal Goods Mfg. Co....349
Broder, Harry, Inc....412
Brown Bag Filling Machine Co....430
Bush & Co., W. J....448

Calco Chemical Co., Inc....442
California Fruit Growers Exchange....Insert facing 401, 417
Carbide & Carbon Chemical Corp....355
Carr-Lowrey Glass Co....359
Cavalla, Inc., A....463
Chemo-Puro Mfg. Corp....456
Chiris Co., Inc., Antoine....366
Chrystal & Co., Inc., Chas. B....455
Collins Labs....461
Colton Co., Arthur....430
Commercial Solvents Corp....378
Consolidated Fruit Jar Co....460
Consolidated Products Co., Inc....463
Cosmia Laboratories....461
Crown Cork & Seal Co....375

Dallal, D. S....460
Distributing & Trading Co....452
Dodge & Olcott Co....Insert facing 400
Dow Chemical Co....410
Drury & Co., Inc., A. C....Insert facing 377
Duche & Sons, Inc., T. M....457
du Pont de Memours & Co., Inc., E. I....372
Durlin Corp....414
Duval Compagnie....463

Economic Machinery Co....428
Edge Moor Iron Works, Inc....428
Empire Box Corp....461
Eppenbach, Inc....429
Ertel Engineering Corp....430
Evans Chemetics, Inc....360

Fairmount Chemical Co....460
Felton Chemical Co., Inc....Insert between 408, 409
Filter Paper Co....463
Fine Organics, Inc....450
Firmenich & Co., Inc....Cover 4
Fitzpatrick Co., W. J....Insert between 352, 353
Florasynth Labs., Inc....Insert facing 409
Frank-Vliet Co....452
Franks Chemical Prod. Co., Inc....464
Fritzsche Bros....Insert between 432, 433

Gardner-Richardson Co....Insert facing 368
General Drug Co....Insert between 400, 401
General Electric Co....361
Gesell, Inc., R....458
Givaudan-Delawanna, Inc....Insert between 368, 369
Goldschmidt Chem. Corp....Insert between 380, 381
Greeff & Co., R. W....454

Hagerty Bros. & Co....431
Helfrich Labs., Inc....Insert between 408, 409
Heyden Chemical Corp....Insert facing 353
Hopkins & Co., J. L....417
Hormann & Co., F. R....463
Horn, John....458
Huisking & Co., Inc., Chas. L....439

Industrial Chemical Sales....Cover 2
Inland Alkaloid Co....459
Interstate Color Co., Inc....463

Jelly & Co., Walter H....453

Kachurin Drug Co....444
Kiefer Machine Co., Karl....422
Kimble Glass Co....Insert facing 352
Kohnstamm & Co., H....Insert facing 369
Kolmar Laboratories....402

Leeben Chemical Co., Inc....463
Lemke, Co., B. L....459
Leonhard Wax Co., Th....460
Lippincott Company, J. B....434
Lueders & Co., George....353
Lusteroid Container Co....412

Magnus, Mabee & Reynard, Inc....374
Mallinckrodt Chemical Wks....Insert facing 381
Malmstrom & Co., N. I....436
Maryland Glass Corp....Insert between 400, 401
McKesson & Robbins, Inc....417
Merck & Co., Inc....357
Monsanto Chemical Co....404

National Aniline & Chemical Co....446
National Can Co....350, 351
National Wax Refining Co....354
Naugatuck Aromatics....348
New England Collapsible Tube Co....396
N. J. Machine Corp....426
N. Y. Quinine & Chemical Works....368
Norda Essential Oil & Chemical Co....356
Northwestern Chem. Co....444

Orbis Products Corp....406
Owens-Illinois Glass Co....398
Oxzyn Company....376

Package Machinery Co....420
Parento Co., Compagnie....414
Parsons Imports, M. W....439
Penick & Co., S. B....Insert facing 380
Pfaltz & Bauer Co., Inc....460
Pfizer & Co., Inc., Chas....345
Polak & Schwarz, Inc....377
Powell & Co., Inc., John....436

Republic Filters, Inc....424
Ritchie & Co., W. C....369
Robinson Wagner Co....440
Rosenthal Co., H. H....450
Roure-DuPont, Inc....379

Schimmel & Co., Inc....358
Seeley & Co., Inc....456
Seydel Chemical Co....461
Sherwood Refining Co....448
Solvay Sales Corp....434
Sonneborn Sons, Inc., L....363
Standard Alcohol Company....438
Standard Oil Co. (Indiana)....347
Stokes Machine Co., F. J....418
Sturge Ltd., John & E....Cover 3
Swindell Bros., Inc....367

Thurston & Braidich....448
Tombarel Products Corp....442

Ungerer & Co., Inc....Insert between 360, 361
U. S. Bottlers Machinery Co....429
U. S. Industrial Chemicals, Inc....Insert between 416, 417
van-Ameringen-Haebler, Inc....364, 365
Van Dyk & Co....450
Verley & Co., Albert....362

Wahlert Products Corp....431
Welch, Holme & Clark, Inc....438
Whittaker, Clark & Daniels, Inc....440
Will & Baumer Candle Co....446
Wilson Laboratories, Inc....453
Wolf & Co., Jacques....457